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COLORADO RIVER STORAGE PROJECT
41

28th Annual Report

Colorado River Storage Project and Participating Projects in Fiscal Year 1984

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28th Annual Report

Colorado River Storage Project and Participating Projects in Fiscal Year 1984

Reflection of the sun on Lake Powell

Snow filled ski resort in Little Cottonwood Canyon

Arches National Monument

The Colorado River Storage Project (CRSP) is a basinwide program of development and use of water resources of the Upper Colorado River, and is one of the most complex and extensive river resources developments in the world.

It takes in the drainage area of the Upper Colorado River Basin, encompassing parts of Wyoming, Utah, Colorado, Arizona, and New Mexico — about one-twelfth of the continental area of the United States. CRSP storage units (Glen Canyon Dam, Flaming Gorge Dam, Navajo Dam, and the Wayne N. Aspinall Unit dams) equalize the erratic flows of the Colorado River and its main tributaries so that water delivery commitments to the Lower Basin States — California, Arizona, and Nevada — can be met even in years of low flow.

The remaining water in the Upper Basin can then serve the needs of farmers, municipalities and industries. Delivery of this water to consumers is accomplished through the participating projects.

(Cover Photo)
Special test of left spillway at Glen Canyon Dam

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Fiscal Year 1984 Highlights

Successful test of Glen Canyon Dam's left spillway

50,000 cfs of water going through Glen Canyon Dam's left spillway

With the National Weather Service predicting another record spring runoff, the Bureau of Reclamation geared its operation at all reservoirs, and especially at Glen Canyon Dam, toward developing reservoir space to contain the expected runoff of 173 percent of normal.

When the runoff season ended, nearly 15 million acre-feet, or 202 percent of normal had flowed into Lake Powell. The lake elevation reached 3,702 in July, which is 2 feet above the normal full elevation.

Because of the spillway repair work at Glen Canyon, the River System was operated in 1984 as if the maximum inflow would be received. With this operating practice, and drawing down the reservoirs more than normal, we were able to contain the runoff when the maximum forecast occurred without using the Glen Canyon spillways. The left spillway was repaired and ready for use had it been needed.

The modification by installation of air slots was an integral part of the spillway repair and to prevent a reoccurence of the damages from the destructive flows of 1983 which caused cavitation on both of Glen Canyon Dam's 41-foot diameter spillways. Since the left spillway was used longer at higher flows, it took the brunt of the damage, although the right spillway was also damaged. Cost of the spillway repair is estimated to be about $33 million.

A testing program of the repaired left spillway proved the repair and modification to be successful. During the 72-hour tests, up to 50,000 cubic feet per second (cfs) were run through the spillway tunnel.

Two separate types of tests were conducted. A step-test at various flows up to 50,000 cfs was conducted to verify the model that was used to design the spillway modification. Two separate duration tests of 24 hours, at a flow of 20,000 cfs, caused no damage.

Repair of both the left and the right spillways is now complete.

The Bureau of Reclamation is seeking non-Federal financing for the Diamond Fork Power System. The construction schedule was reviewed in consultation with the private sector to create a more competitively priced product to market through the Western Area Power Marketing Process. Costs have been assigned to the revised schedule and non-Federal financing economics refined. Western incorporated these non-Federal costs and our legal and policy requirements, with their power allocation criteria into a Federal Register notice for public review and comment. A good measurement of non-Federal interest in financing the project is expected in 1985.

Our adjunct team of investment bankers are very willing to help identify what it will take to acquire the $240 million of non-Federal financing that we are seeking. Western is handling plans for the additional transmission that might be necessary.

Four reasons why the proposal is appropriate and workable are:

First, the Diamond Fork Power System is completely separate from the Upper Basin Power System. It can stand alone.

Second, it is different from other power facilities because it would be constructed with non-Federal funds.

Third, as part of the overall agreement, the non-Federal funders would agree to assist

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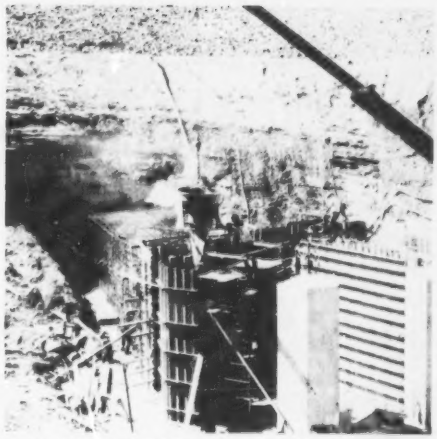
Big Sandy Spillway rehabilitation

Excavation of the roller compacted concrete test section



Concrete placement at Strawberry Tunnel Inlet

with the municipal and industrial repayment at the outset.

And fourth, no legislation would be required of Congress to implement this proposal. We have the authority we need within our own regulations.

A concrete cutoff wall is being proposed for repair of Fontenelle Dam. The diaphragm wall would be inserted in the seepage-prone areas of the dam. Installation of a test section, possibly in 1985, is dependent on the availability of funding. Construction of the test section will require holding Fontenelle Reservoir at a low elevation during 1985 and allowing it to rise to its currently controlled elevation prior to a second drawdown at the start of construction of the full cutoff wall. Releases will be managed so that the combined powerplant and river outlet works can be operated without exceeding the Green River flood channel capacity.

At Big Sandy Dam, major repair was necessary on the spillway where frost action and the runoff waters loosened the slabs of concrete in the dam's spillway. The contract for repair was awarded in April 1984 and is expected to be completed in 1985.

Upper Stillwater Dam foundation exploration was completed in November 1984. The contract for aggregate production for the dam was cancelled. A new contract will be procured in 1985 to acquire the needed aggregate for Reclamation's first "Roller Compacted Concrete" dam which is scheduled for completion in July 1987. Cost of the dam is estimated to be $60,603,625.

A study of seepage water flowing through the rock abutments of Navajo Dam indicates that additional seepage control measures are desirable, although it poses no danger to the safety of the dam. Measures now being considered include excavation of drainage tunnels, insertion of drain pipes and grouting with cement grout and a concrete diaphram wall.

Seepage around the dam was first noted in the early 1960's when Navajo Lake filled for the first time. Although amounts of seepage water vary with the level of the lake, the average flow has changed only slightly over the last 10 years or more.

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Congressional Appropriations
Fiscal Year 1984

Sparkling American Fork River in winter

Experimental windmills as an alternate power source

Excavation of pit structure at Apricot Hamlet Site

	FY 1984	Total to Date
Appropriation for Construction		
Basin Fund	$175,192,668	$1,812,460,845
Recreational Fish and Wildlife	8,643,387	136,457,756
Subtotal	183,836,055	1,948,918,601
Transfers between Government Agencies		381,357
Appropriations to Original Paonia Project		2,081,773
Navajo Indian Irrigation Project		230,897,500
Total Congressional Appropriations	183,836,055	2,182,279,231

Drill helper works from a crow's nest

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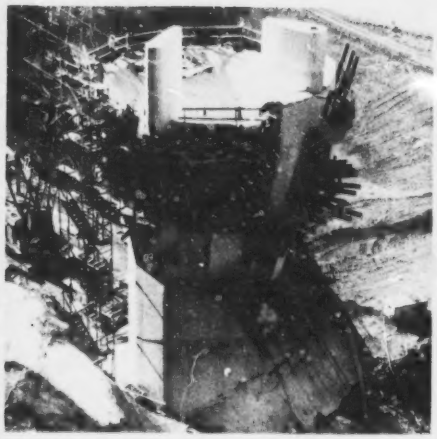
Construction



Dallas Creek spillway intake structure

New lining of Glen Canyon Dam's left spillway tunnel

Strawberry Tunnel Inlet Rehabilitation

The major construction activities of the Upper Colorado Regional Office in Fiscal Year 1984 included the Glen Canyon Spillway Repair on the Glen Canyon Storage Unit; the Upper Stillwater Dam and other features of the Strawberry Aqueduct and Collection System of the Bonneville Unit, Central Utah Project; McPhee Dam of the Dolores and Ridgway Dam of the Dallas Creek Projects; installation of air slots in the spillways of the Flaming Gorge Storage Unit and Blue Mesa Dam of the Wayne N. Aspinall Storage Unit.

Construction or rehabilitation was also in progress on Navajo Unit; Central Utah Project's Bonneville, Vernal and Jensen Units; Dolores Project; Dallas Creek Project; Colorado River Basin Salinity Control Project; Seedskadee Project and the Lyman Project.

Glen Canyon Storage Unit: Repair of the damaged spillways of Glen Canyon Dam was completed during 1984 and the left spillway was tested during August 11-15. By releasing 50,000 cubic feet per second (cfs) through the previously damaged spillway and by sending 20,000 cfs through for two 24-hour periods, Reclamation tested the strength of the repair work, and the value of the newly added air slots which were designed to eliminate cavitation, the cause of the damage. Without qualification, the repair work and air slots were successful. By the end of September 1984, all of the work in the right spillway had been completed and only clean-up work remained to be accomplished.

Navajo Storage Unit: An extensive program of investigations of foundation conditions at Navajo Dam related to seepage through the abutments has been completed. Preliminary designs have been prepared which call for drilling tunnels into both the right and left abutments of Navajo Dam and constructing a drainage system to remove water seeping through the abutments from the contact with the dam foundation. In addition to these plans, which have been reviewed by outside consultants, studies of positive seepage cutoff walls in the abutments of Navajo Dam are also underway.

Flaming Gorge Storage Unit: Work was accepted as substantially complete on the airslot installment in the spillway tunnel at Flaming Gorge Dam. Another contract for $437,000 was awarded for spillway tunnel repairs. Portions of the 1½-foot-thick concrete lining will be removed and replaced with new concrete. At certain designated places, the existing concrete will be repaired. By the end of August 1984, four percent of the work had been accomplished.

Wayne N. Aspinall Storage Unit: A $542,260 contract was awarded to modify and repair Blue Mesa Spillway. Damaged portions of the concrete lining will be repaired and an air slot will be installed which will prevent future damage to the spillway when in operation. Anticipated completion date is May 1985.

Seedskadee Project: A request for proposals was published for the Fontenelle Dam test section. The work of the test section involves approximately 700 linear feet of concrete diaphragm wall to be installed through existing embankment and rock abutment foundations in three sections at Fontenelle Dam. The wall will extend a maximum of approximately 70 feet into the foundation abutment rock foundations. After construction techniques used in the

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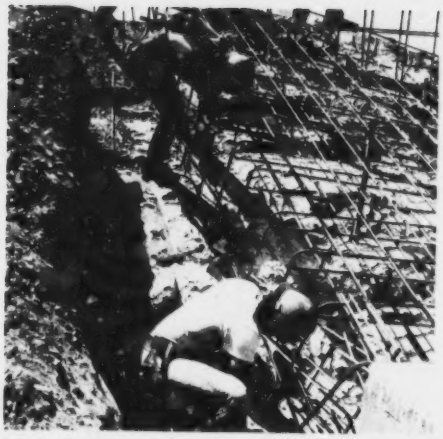
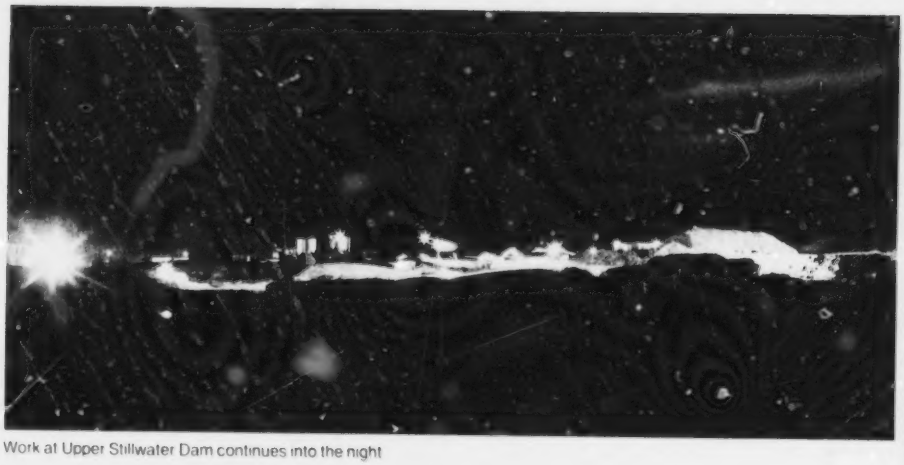


Rebar being tied off at siphon outlet transition structure



Work at Upper Stillwater Dam continues into the night

test section and monitoring of the test section are complete, a contract for constructing a concrete diaphragm wall throughout the remainder of the Fontenelle embankment is contemplated.

Eden Project: At Big Sandy Dam, major repair was necessary on the spillway where frost action and the runoff waters loosened slabs of concrete in the dam's spillway. The spillway modification work started in June 1984. By the end of August 1984, about 34 percent of the work had been completed. Work on the Big Sandy Cofferdam and Spillway repair was completed in May 1984.

Dolores Project: McPhee Dam, the major feature of the Dolores Project, was completed and the first of three monitored stages of filling began in March 1984 when the river outlet gates were closed. According to established filling criteria, the water surface was not to rise above elevation 6,750 feet the first year. The enormous inflows into the reservoir during 1984 spring runoff, however, exceeded the allowable releases. Permission was granted to raise the first stage elevation an additional 60 feet. Monitoring will continue during the

Construction Costs — Annual and Accumulated

	Annual	Accumulated
Fiscal Year 1975	$ 52,303,718	
To date as of June 30, 1975		$1,064,112,110
Fiscal Year 1976	70,281,741	
To date as of June 30, 1976		1,134,393,851
Transitional quarter and Fiscal Year 1977	131,750,705	
To date as of September 30, 1977		1,266,144,556
Fiscal Year 1978	89,001,375	
To date as of September 30, 1978		1,355,145,931
Fiscal Year 1979	95,067,380	
To date as of September 30, 1979		1,450,213,311
Fiscal Year 1980	130,357,851	
To date as of September 30, 1980		1,580,571,162
Fiscal Year 1981	166,678,707	
To date as of September 30, 1981		1,747,249,869
Fiscal Year 1982	170,316,665	
To date as of September 30, 1982		1,917,566,534
Fiscal Year 1983	200,673,141	
To date as of September 30, 1983		2,118,239,675
Fiscal Year 1984	193,233,741	
To date as of September 30, 1984		2,311,473,416

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Work continues on Anasazi Heritage Center

Workmen prepare forms for concrete placement for retaining wall, Grand Valley Unit

Concrete and rock from roller compacted concrete test section, Upper Stillwater Dam

next two filling stages to insure the safest filling procedures possible.

The Dolores Tunnel and Canal was completed and accepted in July 1984. The contractor working on the Great Cut Pumping Plant had completed about 34 percent of the work by the end of August 1984. House Creek Road was about 50 percent completed at the end of the construction season. Notice to proceed was given on the Dove Creek Canal, Reach 1. By the end of August 1984, the work was about 50 percent complete.

An award for the $2.9-million Anasazi Heritage Center was given in May 1984. The work was about 13 percent complete at the end of August 1984. The 40,500-square-foot building, which will contain a theater, storage rooms, a foyer, and a reception center, will be a museum to house ancient artifacts of the Anasazi Indians. Reclamation has already spent over $9 million to recover archeological data from the Dolores Valley.

A $10-million construction contract was awarded for Reach 1 of Dove Creek Canal in Montezuma County. Many other contracts were awarded and were in progress on the Dolores Project.

Dallas Creek Project: The contractor at Ridgway Dam has begun the Stage 2 phase of the dam construction. Foundation construction included placing of the dam embankment and construction of concrete structures. By the end of the year the contractor was approximately 34 percent complete.

Clearing of Ridgway Reservoir work started in May 1984 and was completed in August at a cost of $146,749.

Central Utah Project: Bonneville Unit–At Stillwater Tunnel, the contractor completed the tunnel lining and was doing the backfill grouting. The work was about 97 percent complete by the end of August 1984. Hades and Rhodes Tunnels were completed.

The foundation excavation work at Upper Stillwater Dam was completed. Drilling, blasting, and excavation of the dam foundation was about 12 percent complete in August. The contract for sand and aggregate production for the dam was about 80 percent completed by the same time.

Strawberry Tunnel Inlet Rehabilitation was completed. The contractor completed about 95 percent of the work on Vat Diversion Dam and West Fork Pipeline. A $5.7-million contract was awarded in June for the North Fork Siphon; notice to proceed was given in August.

Other work in progress or completed on the Bonneville Unit includes:

Feature	Percent Complete
Jordan Aqueduct, Reach 4 & Alpine Aqueduct, Reach 3	27
Utah Projects Office Complex	100
Clearing Strawberry Reservoir	17
Exploratory Drilling, Monks Hollow Dam and Reservoir	0
Strawberry Administrative Site Development	21
Haws Point Access Road and Day Use Areas, West Side Road Repair, and Soldier Creek Dam Fisherman Access Areas	75
Exploratory Drilling — Jordanelle Damsite	82

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Glen Canyon Dam left spillway construction

Welding two halves together of the north trashrack on the traveling water screen Grand Valley Unit

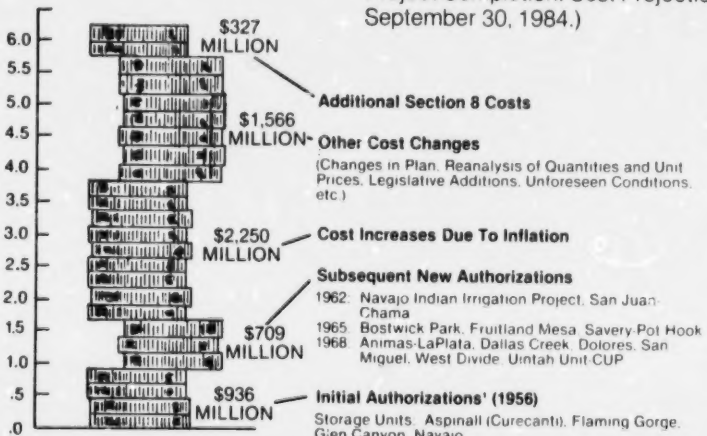
Steel forms for Strawberry Tunnel Inlet Rehabilitation

Strawberry Bay Campground Facilities	82
Sheep Creek-Rays Valley Road	100
Duchesne Office Complex	99
Currant Creek Road Aggregate Production	100
Soldier Creek Dam-Right Abutment Drainage	44

Chip and Seal Coat Striping and Miscellaneous Improvements for Strawberry Reservoir Recreation Area contract was awarded August 29, 1984, for $353,910. On the Diamond Fork Power System, the Sixth Water Flow Through alternative was selected as the recommended plan since results of a market test showed insufficient interest in non-Federally financing of the 1,182.4 MW Fifth Water Pumped Storage alternative. The Sixth Water Plan would develop approximately 166.2 MW of conventional flow-through hydropower and would generate an average of 362,200 MW of energy annually. The Diamond Fork Power System Final Environmental Impact Statement was scheduled to be filed in October 1984.

Estimated Contruction Costs of Colorado River Storage Project and Participating Projects

(Section 5 and Section 8 Facilities with Projected Increases from 1956 (Initial) to Project Completion. Cost Projections as of September 30, 1984.)



[1]Only $760 Million was initially appropriated by Congress
[2]Deferred indefinitely in 1962
[3]Deauthorized in 1971

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Rock facing on walls of Anasazi Heritage Center

Lobby floor slab of Anasazi Heritage Center

Construction at Dallas Creek Project

Jensen Unit — Work was nearing completion on the miscellaneous work on the pipeline for the Tyzack Pumping Plant and Aqueduct. A contract for $1.9-million was awarded for the Tyzack Aqueduct, Reach 2 in mid August.

Uintah Unit — The Ute Indian Tribe requested the Secretary of the Interior to renew efforts to negotiate a settlement of Ute Tribal water rights in relation to the Central Utah Project. The Secretary has responded to the Tribe and has asked his Water Rights Task Force to meet with the Tribe and discuss issues. Technical and Policy Committees were established to meet with the Tribe. After the Policy Committee has made recommendations to the Secretary, he will meet with the Tribe and possibly reach an agreement. This meeting should take place by the middle of October.

A Navajo Indian rides his horse down a ridge near Glen Canyon

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Environmental

Water quality test equipment at Regional Water Quality and Soils Lab

Bass are electrically shocked, netted, and released into Delores Reservoir

Geologist's check determined that no changes occurred on Rainbow Bridge

NEPA compliance in Fiscal Year 1984 included the filing of the Final Environmental Impact Statement on the Diamond Fork Power System, preparation of two Environmental Assessments, three Findings of No Significant Impact, and 111 Categorical Exclusions.

Reclamation, in cooperation with the Fish and Wildlife Service, will conclude a 3-year monitoring effort of the endangered fishes in the Colorado and Green River systems in the Upper Basin. The purpose of the study is to determine the potential impacts of project construction and operation on the Colorado squawfish and humpback chub and to help find ways to eliminate any adverse effects. A final report on these fishes will be completed by September 1985.

Recognizing the importance of the tailwater trout fisheries below Fontenelle, Crystal, Navajo, and Glen Canyon Dams, Reclamation initiated a 2-year $470,000 study of these fisheries in 1983. The purpose of this study is to determine flow requirements and other habitat needs of the fishes. This will allow Reclamation to better operate and maintain these facilities in compatibility with this valuable resource. A final report on the project will be completed by December 1985.

Fish trapped near intake are being returned to reservoir

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Salinity Control

Lining canals keeps harmful minerals out of irrigation water

Alkali slowly encroaching a farmer's alfalfa field

Progress is continuing on three of the four authorized units under the Salinity Control Project (Paradox, Grand Valley, Las Vegas Wash). The accomplishments in Fiscal Year 1984 are as follows:

Units Authorized For Construction

Paradox Valley Unit: Deep well injection still appears the most cost-effective solution for disposal of collected brines. Contract work is underway to identify a new injection well site in a shallower receiving formation with the objective of drilling and testing a well. Two independent contracts were selected for geophysical data interpretation. Their task is to identify the best location for a test well from the geophysical data that Reclamation has obtained. A contractor has also been selected to design and oversee construction of the test injection well.

The current deep well site selection process has delayed the well drilling contract award. A potential injection well site location has been selected and property purchased for it.

Grand Valley Unit:

Data collection for the Stage Two area is continuing. Design data collection is underway on the West End Government Highline Canal and Laterals, the first facilities scheduled for construction under Stage Two.

The recommended plan includes piping laterals and membrane lining the West End, Middle Portion, and East End of the Government Highline Canal. Lining of the middle and east portions of the Government Highline Canal would be deferred until needed to meet salinity goals. Completion of the Draft Environmental Impact Statement is scheduled for the fall of 1985.

Las Vegas Wash Unit:

A contract was awarded to construct the 3.5-mile Pittman bypass pipeline with the completion date set for November 28, 1984. The curtailment of seepage from the unlined ditches is expected to cause a rapid drop in ground water levels in the Pittman area, resulting in reduced loading of 8,000 tons per year to Las Vegas Wash. Monitoring of the resulting ground water changes is expected to continue through Fiscal Year 1987 when an assessment will be made of the results of the Pittman Verification Program.

Another strategy to further reduce salinity loading is using ground water barriers in other areas of the Wash. Continued close coordination with local interests will be necessary to gain support on further plans for salinity control, wastewater treatment, wetlands park, and recreation land use. A verification effort has been proposed to test the effectiveness of the ground water barrier concept with a monitoring program.

Crystal Geyser Unit:

The Crystal Geyser Unit has been deferred indefinitely because of low cost effectiveness.

Units Authorized For Planning

The ten units authorized for planning under the Colorado River Water Quality Improvement Program are at various stages within the planning process as follows:

Big Sandy River Unit:

The preferred plan would remove saline water by collection wells in the spring and seep area of the Big Sandy River and would pump the water through pipeline to a proposed industrial use near Rock Springs, WY. Chevron and Texasgulf have informed Reclamation that they no longer need the amount of water originally determined

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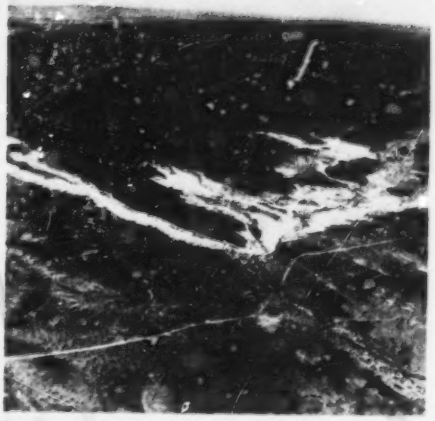

Salt accumulations around Fontenelle Dam

Brine intrusion in fields, looking upstream on the Dolores River in Paradox Valley

Salt slowly chokes out farm land

because of changing market conditions.

Studies are underway with the State of Wyoming to determine the feasibility of piping saline water to Jim Bridger Powerplant for powerplant cooling in conjunction with Chevron-Texasgulf use.

The USDA onfarm program, as outlined in their Big Sandy Report, is being reevaluated to see if low pressure sprinkler irrigation is a viable project plan.

Dirty Devil River Unit:

Basic data collection was completed to more accurately idenfity, to locate, and to quantify the alternative plans capable of reducing the salinity entering the river. The study is scheduled for completion in Fiscal Year 1986. Present plans call for collecting the saline flows from Salt Wash and South Salt Wash and disposing of the flows by deep well injection.

Glenwood-Dotsero Springs Unit:

The preferred plan would collect saline flows from Glenwood and Dotsero Springs and deliver the flows through a 140-mile pipeline to evaporation ponds for disposal near West Salt Creek on the Colorado-Utah border. The plan is not being pursued since it is not as cost-effective as other plans being implemented in the basin and, under Colorado water law, evaporation is not considered a beneficial use of water. Other alternatives are to utilize the saline water as part of WESTRANS or to find a local industrial use. The study is scheduled to look at several local industrial uses in greater detail before the completion of the Regional Director's Planning Report and Draft Environmental Impact Statement in Fiscal Year 1985.

La Verkin Springs Unit:

A preliminary findings report was released in August 1984 recommending the study be discontinued because of poor cost-effectiveness. This recommendation has been concurred in by the Salinity Control Forum and the Commissioner's Office.

Lower Gunnison Basin Unit:

The Planning Report and Final Environmental Impact Statement were filed with EPA on January 12, 1984. Reclamation has recommended to the Secretary of the Interior that the Planning Report and Final Environmental Impact Statement be adopted and transmitted to the Office of Management and Budget and to the President for advice on forwarding the report to Congress for consideration for authorization. Advance planning studies were initiated on the winter water portion in Fiscal Year 1984.

Legislation authorizing construction of this unit was passed in October 1984.

Lower Virgin River Unit:

Additional studies were programmed to investigate the viability of capturing Lower Virgin River saline underflows and surface flows and diverting them for industrial use as powerplant cooling water. Fiscal Year 1985 funds will provide for investigation of the potential alternatives for the collection, conveyance, and use of the saline water. USDA has published a Virgin Valley onfarm salinity report. Implementation of the USDA program is scheduled for initiation in 1985.

McElmo Creek Unit.

The most economical plan identified incorporates at least a part of the McElmo Creek Unit with the Dolores Project which is now under construction. The Highline Canal of the Montezuma Valley Irrigation Company, a part of the McElmo Creek Unit, will be combined with the Towaoc Canal of the Dolores Project for reduced seepage

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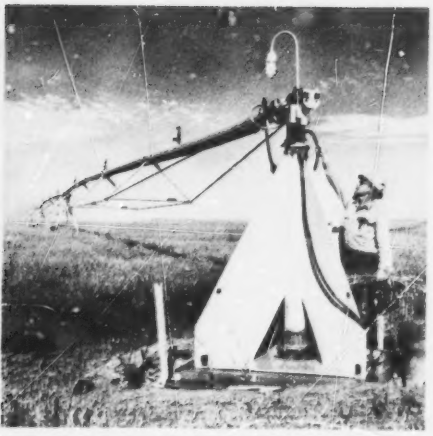
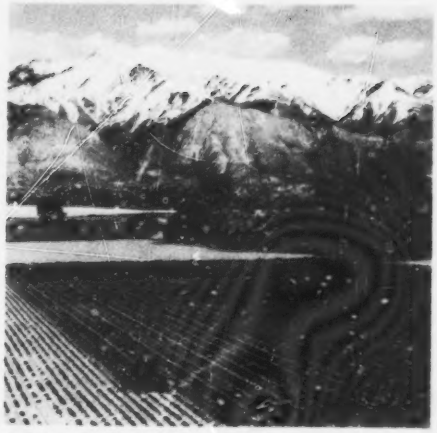


Huge radial sprinkler system at Seedskadee Development Farm



Agriculture in Weber Basin

Farms in the Uinta Basin use water from the CUP

and more efficient water delivery and savings over previous plans. The remaining laterals and canals will be lined as a reduced-scale McElmo Creek Unit. Legislation authorizing construction of this unit was passed in October 1984. A Regional Director's Planning Report/Draft Environmental Impact Statement is expected to be completed in Fiscal Year 1985.

Meeker Dome Unit:

A preliminary findings report on the Meeker Dome Unit was completed in February 1984. The findings indicate the plugging of three abandoned oil wells has significantly reduced salt loading in the White River. A planning report is scheduled for May 1985 which will verify these salinity reductions through recent monitoring. The study will be concluded; however, the planning report and the data will be preserved in the event any further studies are deemed necessary.

Price-San Rafael Rivers Unit:

A professional services contractor completed the identification of alternative plans and Reclamation selected a recommended plan, which consists of lining stock ponds and extending municipal systems to improve winter watering practices. The study is proposed for completion in September 1985. Advance planning is proposed to begin in Fiscal Year 1987.

Reclamation and USDA continue to coordinate planning efforts. USDA planning efforts are focusing on onfarm systems improvements, some replacement canal and lateral structures, and providing onfarm water management assistance. The USDA onfarm report was scheduled for completion in Fiscal Year 1984.

Uinta Basin Unit:

The preferred plan consists of lining about 55.5 miles of canals and laterals and is estimated to reduce salt loading by about 26,100 tons annually. This portion of the study is scheduled for completion in Fiscal Year 1985. The final portion of the study will address the Indian and non-Indian irrigation distribution systems not considered in the first portion and the potential for the collection and industrial use of saline water. Studies are scheduled to be completed in Fiscal Year 1990.

Coordination between Reclamation and USDA has been maintained in the progress of this study. USDA is continuing its onfarm implementation program and its work on a number of lateral and onfarm improvements.

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Operations

Water released from the outlet works at Glen Canyon Dam

Approximately 10,000 acre-feet of water spills from Crystal Reservoir

Water is being released from two spillway gates at Morrow Point

Reservoirs

During the water year which ended September 30, 1984, the Upper Colorado River Basin yielded 21,425,000 acre-feet, or 180 percent of the long-time average. The disposition of this runoff was as follows:

	Acre-feet
Net reservoir storage change	392,000
Evaporation loss	752,000
Bank storage change	14,000
Release to lower basin	21,051,000
Total yield	21,425,000

The water supply in 1984 ranged from 167 percent of normal on the Gunnison River above Blue Mesa to 111 percent of normal on the San Juan River above Navajo.

Inflow to Flaming Gorge was 157 percent of normal for water year 1984. The April through July unregulated runoff into Lake Powell was 15,258,000 acre-feet which was 446,000 acre-feet higher than 1983. Lake Powell's water surface elevation peaked at 3,702.46 feet on July 8, 1984, almost 2.5 feet into surcharge.

Water storage at Glen Canyon decreased 470,000 acre-feet from October 1983 to September 1984. Flaming Gorge storage increased by 109,000 acre-feet and Navajo and Blue Mesa storages increased 116,000 and 49,000 acre-feet, respectively.

Fontenelle Reservoir in Wyoming increased by 4,000 acre feet.

Rivers

Due to high carry over reservoir content from 1983 and another record high runoff in 1984, releases from the reservoirs were much higher than the minimum required for fish, recreation, or any other demands. The releases from Flaming Gorge were rarely below 3,000 cubic feet per second (cfs) and were as high as 8,000 cfs for 8 days. The minimum release from Crystal Reservoir was 1,700 cfs. The maximum release was 9,700 cfs. The maximum outflow from Lake Powell was 44,000 cfs which was maintained from May 6 through July 23, 1984. This included maximum outlet works discharge of 17,000 cfs combined with a maximum powerplant release of 27,000 cfs.

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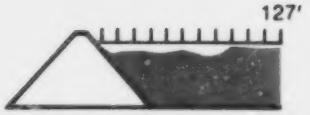
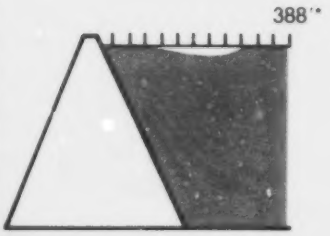
OCTOBER 1983 — SEPTEMBER 1984

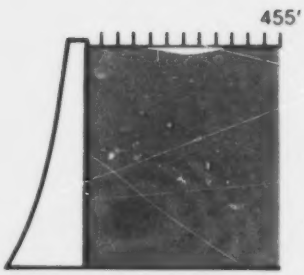
*Maximum height of water above streambed
**Acre-feet



Fontenelle
Max. Capacity — 345,000 AF
Storage on September 30, 1984 — 181,000

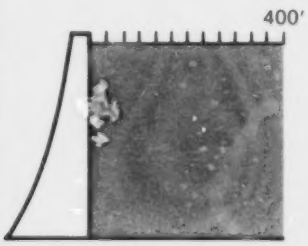


Navajo
Max. Capacity — 1,709,000 AF**
Storage on September 30, 1984 — 1,647,000

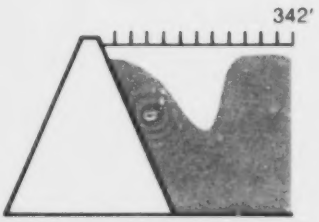


Flaming Gorge
Max. Capacity — 3,789,000 AF
Storage on September 30, 1984 — 3,725,000

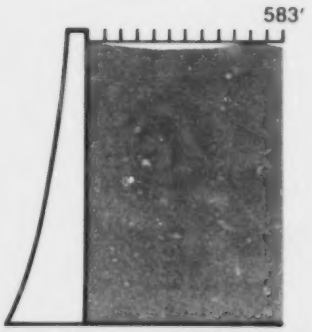
Crystal
Max. Capacity — 26,000 AF
Storage on September 30, 1984 — 25,000



Morrow Point
Max. Capacity — 117,000 AF
Storage on September 30, 1984 114,000



Blue Mesa
Max. Capacity — 941,000 AF
Storage on September 30, 1984 — 900,000



Glen Canyon
Max. Capacity — 27,000,000 AF
Storage on September 30, 1984 25,345,000

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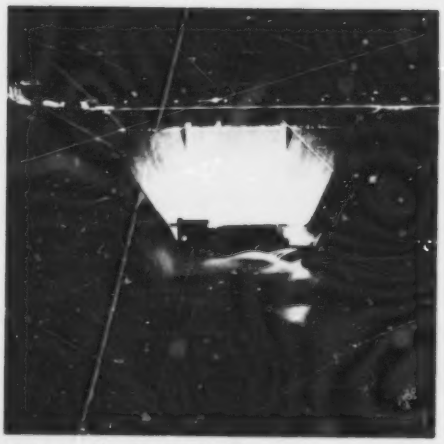
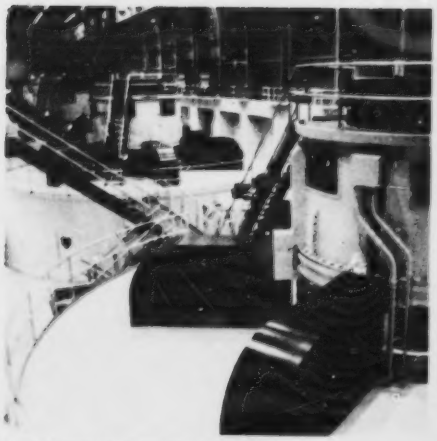
Power Sales



Nighttime at Glen Canyon Dam

Fontenelle Dam and Powerplant



Glen Canyon Dam Powerplant

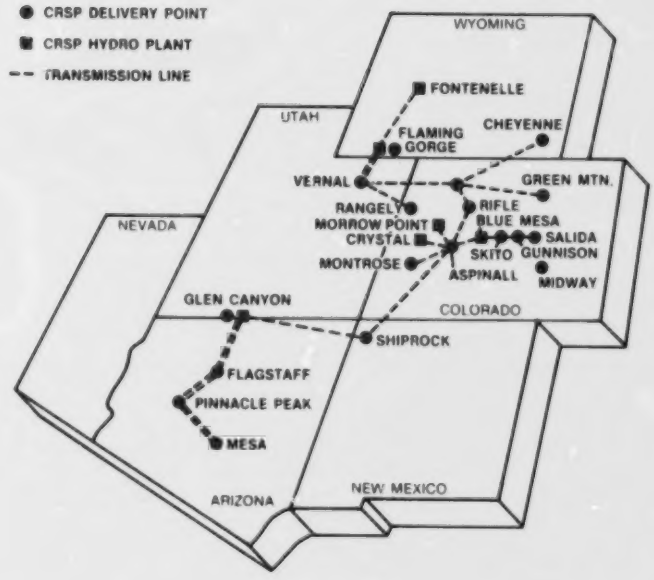
Fiscal Year 1984

Income from the sale of storage project power in fiscal year 1984 amounted to about $121 million, which was an increase of nearly $15 million from Fiscal Year 1983. Energy sales in Fiscal Year 1984 were nearly 14 billion kWh.

Fiscal Year 1984 Energy Sales and Revenues by State

State	kWh[1]	Dollars[2]
Arizona	1,938,088,322	$26,991,614
California	1,319,646,000	18,378,613
Colorado	223,255,549	3,109,264
Nevada	1,944,854,754	27,085,849
New Mexico	696,889,800	9,705,533
Texas	23,412,000	326,057
Utah	2,558,549,280	35,632,748
Wyoming	0	0
Totals	8,704,695,705	$121,229,678

[1]From P.O. & M. Forms 60-B (Loveland/Ft. Collins Figures are included in Total, but State-by-State break-out has not been furnished by LFCAO as of this date)
[2]Calculated Figures: (Energy Sales by State / Total Energy Sales) • Gross Revenue



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Fiscal Year 1984[1]

Sources	Kilowatt-hours
Net Generation	
Blue Mesa	398,921,020
Crystal	235,445,000
Flaming Gorge	878,597,000
Fontenelle	60,909,200
Glen Canyon	8,812,833,000
Morrow Point	602,483,800
Subtotal-Net Generation[2]	10,989,189,020
Purchases[3]	1,260,765,000
Miscellaneous	
Interchange Receipts	1,156,735,439
Energy Charges to Transmission Service Customers[4]	221,997,000
Subtotal-Miscellaneous	1,378,732,439
Total Energy from All Sources	13,628,686,459

[1]Figures are from Fiscal Year 1984 Preliminary Power Repayment Study.
[2]From P.O. & M. Forms 59.
[3]Contents: Parker-Davis Interchange Settlement, purchases from the Provo River Projects, and Montrose District Office purchase accounting.
[4]Transmission losses incurred by the Salt River Project in the operation of its Craig-Hayden/Pinnacle Peak power exchange agreement with the United States, and losses charged to utilities wheeling from non-Western sources over the CRSP transmission system.
[5]System losses include Energy Charges to Transmission Customers, which are also counted as Sources of Energy.
[6]Revenue from CRSP capacity held in reserve for emergency use by the Inland Power Pool.
[7]Includes all revenue not otherwise accounted for above.

Disposition	Kilowatt-hours
Firm Energy Sales	8,685,299,304
NonFirm Energy Sales	
Emergency	14,838,696
Fuel Replacement (Oil Conservation)	2,800,809,000
Subtotal-NonFirm Energy Sales	2,815,647,696
Interchange Deliveries	519,627,404
System Losses[5]	1,608,112,055
Total Energy Distributed	13,628,686,459

CRSP Revenue	Dollars
Firm Power Sales	$74,100,671
NonFirm Power Sales	
Emergency	457,804
Fuel Replacement Energy (Oil Conservation)	41,454,599
Reserve Capacity[6]	57,870
Subtotal-NonFirm Power Sales	41,970,273
Parker-Davis Project Firming	0
Transmission Service	2,055,544
Miscellaneous[7]	3,103,189
Total Gross Project Revenue	121,229,678

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Irrigation

Public parks are kept green through use of a sprinkler system

Irrigated farm land and orchards in Colorado

This moveable set of sprinklers irrigates an alfalfa crop

During the 1984 irrigation season, CRSP participating projects delivered 170,024 acre-feet of water. Total gross crop value from 117,789 acres of irrigated farm land was $21,346,151 equaling $1,926.23 per irrigated acre. The table shows figures by project for calendar year 1984.

State and project	Irrigable area for service (acres)	Area irrigated (acres)	Delivered to farms (acre-feet)	Gross crop value (dollars) 1984 Total	1984 Irrigated (per acre)	To date Accumulated	To date First year
Colorado:							
Bostwick Park	5,180	4,295	19,375	573,596	133.55	8,691,696	1979
Florida	19,450	14,964	24,452	2,173,248	145.23	32,426,548	1964
Paonia	15,300	10,653	44,412	5,404,970	507.37	62,994,266	1951
Silt	7,044	5,393	14,427	837,310	155.26	13,332,715	1968
Smith Fork	9,479	8,924	11,116	1,196,590	134.09	16,707,069	1963
Utah:							
CUP							
Bonneville	21,851	20,505	21,252	4,474,758	218.23	38,657,961	1972
Vernal	14,700	13,848	11,307	2,929,183	211.52	33,988,179	1963
New Mexico:							
Hammond	3,933	3,091	16,570	1,085,526	351.19	13,017,529	1962
Wyoming:							
Lyman	38,678	38,116	7,113	2,670,970	70.07	19,651,016	1972
Total	135,615	119,789	170,024	$21,346,151	$1,926.51	$239,466,779	

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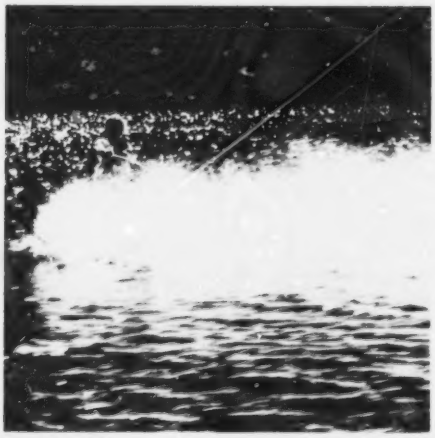
Recreation



Lake Powell water skiing

Fishing for trout in a Uinta Basin stream

Cross country skiers in Colorado mountains

Operations: The Bureau of Reclamation administered recreation facilities at three Colorado River Storage Project reservoirs. Fontenelle Reservoir of the Seedskadee Project in Wyoming is administered by the Flaming Gorge Office in Dutch John, Utah. Red Fleet Reservoir of the Jensen Unit, Central Utah Project, was opened to recreation use in 1982. The area is a fee area and is administered under a service contract with a private company. Completed facilities at Soldier Creek were administered by the Forest Service.

Recreation Planning: Recreation planning for projects under planning investigations status continued on Diamond Fork and Jordanelle Reservoir of the Bonneville Unit, Central Utah Project. Colorado State Division of Parks and Outdoor Recreation is preparing designs and specifications for recreation facilities at Ridgway Reservoir, Dallas Creek Project in western Colorado under a grant from Reclamation.

Recreation Construction: Dallas Creek Project, Colorado: A boat ramp to serve Ridgway Reservoir is included in the contract for construction of the dam presently under way. Construction of additional facilities is anticipated to begin in 1986.

Dolores Project, Colorado: Completion of the contract for the recreation facilities for the McPhee Recreation Area will be complete in 1985 and will be transferred to the San Juan National Forest for management. Additional facilities at House Creek and several fisherman access sites around the reservoir will go to contract during the Fiscal Year 1987. House Creek boat ramp and House Creek road remain under construction.

Central Utah Project, Bonneville Unit, Utah: Strawberry Bay campground facilities, picnic areas and marina were completed and are open for public use under Uinta National Forest management. Other areas completed this last year include Haws Point fisherman access, Chicken Creek East fisherman access and Soldier Creek Dam fisherman parking. Construction contract awards scheduled for Fiscal Year 1985 include completion of Chicken Creek West fisherman access, Strawberry O&M buildings and Strawberry Reservoir and Heber City and Administrative/Visitor Center/Fish Stripping Facility located on the Strawberry River above the reservoir. In the Upper Stillwater drainage, two campgrounds, including a picnic area and a fisherman access area, are presently under construction and are expected to be completed during 1985.

Navajo Project, New Mexico: Planning for recreational facilities in the Navajo Dam Tailwater area is complete and a contract has been awarded for construction to begin in the spring of 1985 and to be completed in 1986.

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Opening day of fishing at Soldier Creek Reservoir

Saltair Marina

Sailing on Navajo Lake

Reservoir Visitations (Estimated)

Reservoir	Year First Visited	1978	1979	1980	1981	1982	1983	1984
Curecanti (Aspinall)	1966	727,906	809,007	891,490	988,951	994,265	1,050,217	994,143
Crawford	1963	98,813	106,313	94,684	63,388	83,054	90,393	69,000
Flaming Gorge	1962	661,120	620,000	815,900	816,000	1,833,100	1,758,663	1,647,000
Fontenelle	1965	83,784	65,049	48,668	42,560	74,000	74,000	54,000
Heron	1973	171,938	104,843	136,334	145,000	106,301	150,204	143,853
Huntington North	1967	117,377	94,923	98,900	73,291	73,700	77,365	71,035
Joes Valley	1967	115,200	91,950	82,773	104,080	93,320	101,300	70,200
Lake Powell	1962	2,211,818	1,733,949	1,646,657	1,820,163	1,841,356	1,826,572	2,052,652
Lemon	1964	93,113	45,390	44,897	66,129	66,537	79,844	31,420
Meeks Cabin	1973	1,210	990	1,130	1,150	2,500	3,878	1,792
Navajo	1963	427,512	312,671	335,464	401,351	405,432	455,620	485,113
Pacnia	1962	15,670	17,312	14,826	22,384	18,955	24,249	16,254
Red Fleet	1982	—	—	—	—	9,751	11,579	4,806
Rifle Gap	1967	138,275	157,612	147,773	148,206	149,000	111,312	111,312
Silver Jack	1973	33,400	34,575	35,970	35,500	34,400	44,550	39,650
Starvation	1970	97,099	72,160	32,035	37,909	40,000	25,696	32,338
Stateline	1982	—	—	—	—	2,276	3,696	3,326
Steinaker	1962	131,179	103,872	71,384	104,357	105,400	105,111	82,699
Strawberry Enlargement	1975	56,672	59,643	56,661	54,640	133,800	279,871	1,735,950
TOTALS		5,182,086	4,430,259	4,555,546	4,924,879	6,068,147	6,274,192	6,119,854

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Social

McPhee Dam Dedication

The CUP's Jensen Unit provides municipal water to the Vernal area

To preserve and enhance the quality of life through planning, construction, operation and management of the Colorado River Storage Project and Participating Projects, social assessment has become an integral part of the Bureau of Reclamation program. Consideration of social effects begins early in the planning stages of a project.

In addition to the social effects of economic and employment opportunities provided through irrigation, power generation and industrial water, the development of land and water for municipal, recreation and fish and wildlife purposes also affects people in the project area. Preservation and enhancement of the affected population's social well-being are both emphasized in the social assessment process.

Major social, economic, and demographic studies continued on the Glenwood-Dotsero Springs, Grand Valley II, Uinta Basin, Dirty Devil, and Price-San Rafael Rivers salinity control units of the Colorado River Water Quality Improvement Program (CRWQIP).

A unique monitoring study on the Dolores Project construction program continued, although the initial summary report was issued. This study is testing current procedures for impact projection and effect analysis while providing the Cortez Projects Office an enhanced data base for continued public involvement.

Major studies as part of the Wasatch Front Total Water Management Study and Mesa-Delta Municipal and Industrial Water Study were initiated. Studies of the Central Utah Project's Bonneville Unit, Diamond Fork Power System; and the McElmo Creek Unit of the CRWQIP were completed.

Many of these studies utilize the Bureau of Reclamation Economic Assessment Model (BREAM) and the Multi-Attribute Trade-off System (MATS) to place economic and demographic present and future conditions, with and without the proposed projects, into perspective.

Subjective non-statistical effects are analyzed using mutually enhancing social assessment and public involvement techniques in all project investigations. Although these studies are conducted by regional and project office personnel, close coordination is maintained with the project area's affected population. Cooperation with State and local planners, demographers, and researchers has provided a useful technique for avoiding duplication and enhancing the quality of both Reclamation and non-Reclamation studies.

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Cultural

Ute Mountain Ute Indian Tribe dancers perform

Archeo-magnetic samples are being collected from Grass Mesa Village site

Our cultural heritage is a nonrenewable resource. Recognizing this, the cultural resources program, implemented by the Upper Colorado Region, concentrates on providing the planning and construction branches with the necessary data on cultural resources to minimize any adverse effects of Reclamation projects. Inhouse and contract surveys are conducted to locate, test and evaluate the resources and, if necessary, data recovery is undertaken through contract to mitigate major project impacts.

The initial stage of location and evaluation of the data is accomplished inhouse as well as by contract. The Grand Junction Projects Office, the Utah Projects Office, and the Cortez Construction Office have archeologists. This provides the avenue to integrate the management of cultural resources with the overall goals of the Bureau of Reclamation.

Three projects, under Executive Order 11593, deal with surveys of the Bonneville and Vernal Units of the Central Utah Projects and the Provo River Project. The Class III surveys have been completed by the contractor and the reports are completed.

An inventory of artifacts recovered during the Old Dallas Historical Archeological Project was completed. Local museums have been contacted to display a selected sample of the artifacts from the project. The report is in the first stages of editing and is anticipated to be completed by December 1985.

The largest ongoing project in the Upper Colorado Region is the Dolores Archeological Project (DAP). The project began in 1978, with the summer of 1984 seeing the completion of mitigation. Excavation has provided the archeologists with the data and artifacts to interpret the Anasazi — the prehistoric people of the area. The DAP personnel will have recovered information from more than 200 sites within the project boundaries by the close of the 1984 field season. The final reports are due in 1986.

These cultural resources belong to the people. To this end, the Bureau of Reclamation has submitted to the E&R Center the design data package for the Anasazi Heritage Center. Once constructed, the center will house the artifacts recovered during the DAP activity and provide the public with a glimpse of the past that is now preserved as a national historic district.

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Fish and Wildlife

Colorado elk

Colorado hummingbird in her nest

Two national fish hatcheries are performing important roles in the joint State-Federal approach to meeting fish stocking requirements at CRSP reservoirs.

Jones Hole National Fish Hatchery: The hatchery is located in a deep canyon on Jones Hole Creek near Dinosaur National Monument in northeastern Utah. In 1983, the hatchery produced 174,130 pounds of fish.

Hotchkiss National Fish Hatchery: The Hatchery is located on the north fork of the Gunnison River near Hotchkiss, CO. Its output of 110,506 pounds of fish went principally for stocking requirements of Blue Mesa, Crawford, Lemon, and Silverjack Reservoirs in Colorado and Navajo Reservoir in Colorado and New Mexico. One national wildlife refuge and three waterfowl areas under State administration are now being developed.

Seedskadee National Wildlife Refuge: The refuge lies along the Green River below Fontenelle Dam, WY, and since 1966, has been administered by the Fish and Wildlife Service. Development of refuge lands is continuing during the year.

Brown's Park Waterfowl Management Area: The area, under administration of the Utah Division of Wildlife Resources, is located below Flaming Gorge Reservoir on the Green River near the Utah-Colorado State line. The overall management area is attracting numerous resident and migratory game bird populations and is increasing in public popularity as a fishing, hunting, and bird-watching area.

Ogden Bay Waterfowl Management Area: This area is between the eastern shore of the Great Salt Lake and Williard Bay. This area consists of 3,104 acres of sloughs and fields planted with grains and weed seed for waterfowl food and cover. Traditionally bird use of the area is heavy. With the rising waters of the Great Salt Lake, this and other areas around the lake becomes more critical.

Desert Lake Waterfowl Management Area: The area comprises 2,480 acres of acquired and public domain land in eastern Utah near Huntington North Reservoir. Administered by Utah Division of Wildlife Resources since January 1968, the area's contribution to waterfowl resources management was significantly increased by rehabilitation to the historic Desert Lake Dike and completion of five additional diked areas below the existing impoundment.

A number of measures have been initiated to mitigate fishery and big game losses caused by the construction of CRSP features.

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Fishery Statistics

	1979	1980	1981	1982	1983	1984
Aspinall Storage Unit						
Reservoirs:						
Fish Planted	1,750,919	1,539,370	2,399,000	3,075,725	3,082,917	1,048,527
Fish Caught	No records	268,671	150,000	* 311,793	* 437,175	271,555
Flaming Gorge Storage Unit						
Reservoir:						
Fish Planted	3,763,725	3,285,823	4,070,000	1,147,000	1,913,621	556,096
Fish Caught	200,000	103,000	171,500	171,500	76,308	95,000
River below dam:						
Fish Planted	No records	No records	No records	No records	No records	150,000
Fish Caught — 10 mile	31,368	48,370	92,000	50,000	48,557	51,000
Glen Canyon Storage Unit						
Reservoir:						
Fish Planted	222,369	10,000	0	63,000	0	30,000
Fish Caught	897,273	384,000	294,800	294,800	250,000	200,000
River below dam:						
Fish Planted	No records	No records	No records	No records	No records	120,000
Fish Caught — Lee's Ferry	9,500	No records	10,000	No records	No records	66,384
Navajo Storage Unit						
Reservoir:						
Fish Planted	279,374	452,650	562,000	1,071,222	1,455,386	890,276
Fish Caught	235,000	321,000	310,000	271,000	523,000	666,000
River below dam:						
Fish Planted	No records	No records	No records	No records	No records	217,580
Fish Caught — 6 mile	60,000	58,725	13,500	44,860	No records	186,561
Totals						
Reservoirs:						
Fish Planted	6,016,387	5,341,843	7,031,000	5,356,947	6,451,924	2,524,899
Fish Caught	1,332,273	1,077,611	926,300	1,049,093	1,286,483	1,232,555
River below dam:						
Fish Planted	No records	No records	No records	No records	No records	487,580
Fish Caught	100,868	107,095	115,500	94,860	48,557	303,945

* Fish catch for June to October only, does not include ice fishing.

Pounds of fish produced in Federal fish hatcheries in 1984

Hotchkiss	110,556 pounds
Jones Hole	174,130 pounds

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Age is no barrier in fishing

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Comparative Balance Sheet

Assets and Other Debits	(Thousands of Dollars) 9/30/84	9/30/83	Increase (Decrease)
Plant, Property and Equipment			
Multipurpose Plant	710,266	592,166	118,150
Irrigation Plant	16,648	14,796	1,852
Electric Plant	402,060	381,046	21,014
M&I Water Plant	16,610	16,608	2
Fish and Wildlife Facilities	20,227	20,570	343-
Public Recreation Facilities	20,550	28,055	7,505-
Construction Work in Progress	984,510	974,405	10,105
Capitalized Movable Equipment	15,245	13,197	2,048
Other Physical Property	486	486	0
Service Facilities	13,717	10,939	2,778
Total Plant, Property and Equipment	2,200,319	2,052,218	148,101
Less: Accumulated Depreciation & Replacement	33,076-	30,369-	2,707-
Net Plant, Property and Equipment	2,167,243	2,021,849	145,394
Investigations	28,159	27,942	217
Transitional Development	6,312	6,090	222
Power Rights	11,153	9,415	1,738
Current Assets			
Cash	122,491	118,236	4,255
Deposit Funds	2,777	770	2,007
Accounts Receivable	24,951	23,044	1,907
Materials and Supplies	1,524	1,234	290
Prepayments and Advances	1,545	1,166	379
Total Current Assets	153,288	144,450	8,838
Long-term Receivables—Repayment Contracts	60,079	60,639	560-
Escrow Accounts	5,844	6,794	950-
Other Deferred Debits	32,923	36,818	3,895-
Total Assets and Other Debits	2,465,001	2,313,997	151,004

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Liabilities and Other Credits	9/30/84	9/30/83	Increase (Decrease)
	(Thousands of Dollars)		
Investment of U.S. Government			
Congressional Appropriations	2,182,279	1,998,443	183,836
Interest During Construction Capitalized	119,512	118,164	1,348
Transfer of Property and Services	12,612	17,393	4,781-
Interest Accrued on Investment	227,312	214,628	12,684
Contributions	6,281	37,269	30,988-
Accumulated Net Income			
Project Repayment	6,771	6,163	608
Other Income	264,102	183,807	80,295
Total Accumulated Net Income	270,873	189,970	80,903
Total Investment of U.S. Government	2,818,869	2,575,867	243,002
Less: Funds Returned to U.S. Treasury	457,131-	381,652-	75,479-
Less: Nonreimbursable Expenses	24,035-	18,612-	5,423-
Net Investment of U.S. Government	2,337,703	2,175,603	162,100
Current Liabilities			
Accounts Payable	28,107	32,799	4,692-
Other Current Liabilities	2,780	777	2,003
Total Current Liabilities	30,887	33,576	2,689-
Deferred Income—Repayment Contracts	60,079	60,639	560-
Liability for Escrow Accounts	5,844	6,794	950-
Other Deferred Credits	30,488	37,385	6,897-
Total Liabilities and Other Credits	2,465,001	2,313,997	151,004

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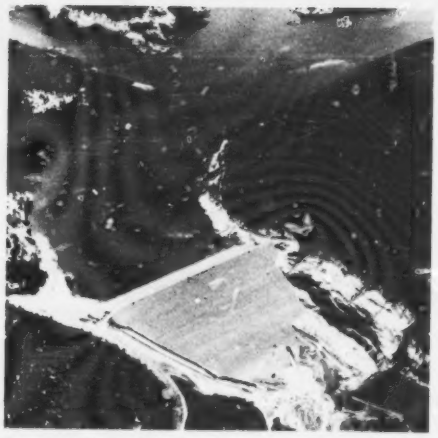
Income and Expense Summary

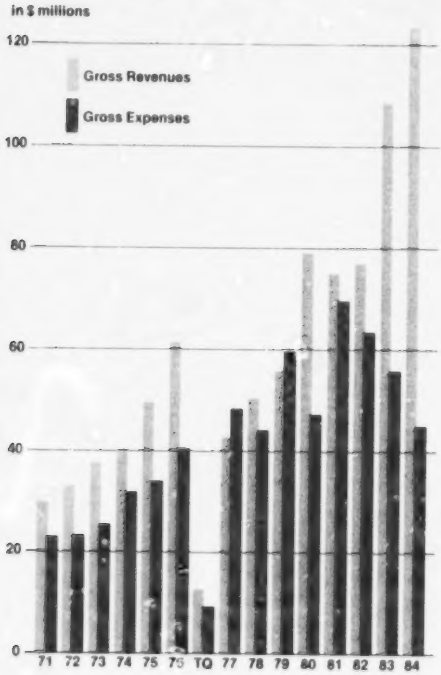
Strawberry Dam



Completed McPhee Dam

The sun sparkles on the untouched snow of the Wasatch Mountains

Income and Expense



	FY 1984	FY 1983	Increase or (Decrease)
Gross Income			
Power	$121,229,678	$106,030,243	$15,199,435
Irrigation	292,040	176,962	115,078
Municipal & Industrial (M&I)	1,721,250	1,626,994	94,256
Net Nonoperating Income	560,979	263,230	297,749
Project Repayment	607,054	249,523	357,531
Total Income	124,411,001	108,346,952	16,064,049
Deductions			
O&M Expense			
Power	28,734,345	40,154,974	(11,420,629)
Irrigation	292,040	176,962	115,078
M&I	765,292	438,035	327,257
Depreciation and Replacement			
Power	2,745,940	2,628,027	117,913
M&I	1,641	640	1,001
Interest on Investment			
Power	11,247,994	11,734,233	(486,239)
M&I	71,615	457,205	(385,590)
Total Deductions	43,858,867	55,590,076	(11,731,209)
Total Net Income (Loss)	80,552,134	52,756,876	27,795,258

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Cash Receipts and Disposition

Stage 2 of Hayden Substation

An early quest for trout in a scenic Grand Mesa Lake

Many structures like this headgate and flume are still used for irrigation

Funds returned to the Federal Treasury during Fiscal Year 1984 amounted to $75,480,223. Payments of interest totaled $13,373,353 and $62,105,538 was applied on the principal.

Cash receipts to date from all sources and cash disposition are shown in the following tabulation. (This statement is on the cash basis and amounts shown will not necessarily coincide with other statements in this report which are presented on an accrual basis.)

	Fiscal Year 1984	Total to Date
Cash		
Total Cash Receipts	$128,236,233	$960,808,682
Disposition		
Quality of Water Expenditures[1]	255,158	2,005,003
Emergency Fund Expenditures	18,041	1,742,185
Consumptive Use Studies[1]	104,446	2,060,192
Utilized for Operations	71,973,020	479,124,501
Payments on Interest — Power	11,310,497	218,235,666
Payments on Interest — M&I Water	2,062,856	8,981,112
Payments on Investment — Power	60,095,708	212,482,462
Payments on Investment — M&I Water	1,715,086	13,936,172
Payments on Investment — Irrigation	294,744	3,473,556
Other Returns to U.S. Treasury	1,332	23,312
Retained for Operations	(19,594,655)	18,744,521
Total	128,236,233	960,808,682

[1] Although quality of water and consumptive use studies are financed from operating revenue the repayable debt of the storage project and participating projects is reduced an equal amount to compensate

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Snow forced Anasazi Heritage Center dedication ceremonies to be held inside

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Allocation of Federal Investment

Apple orchards near Cedaredge, Colorado

Red delicious apples from orchards near Cedaredge

These brochures were used to promote Mosida and Elberta Project areas in 1910

A preliminary allocation of total estimated costs of all authorized projects is summarized in this table.

Allocations to the various purposes authorized under Reclamation law are required by Sec. 6 of Public Law 84-485, the Colorado River Storage Project Act, excluding specific fish and wildlife and recreation expenditures authorized by Sec. 8 of this act. Final allocation reports have been prepared on the Colorado River Storage Project, and on Emery County, Florida, Paonia, Seedskadee, Silt and Smith Fork Participating Projects, and the Vernal Unit of the Central Utah Project.

Project Costs Allocated (Excludes Section 8 Costs)	(Thousands of Dollars)
Reimbursable Allocations:	
Irrigation	$2,568,700
Power	1,115,130
Municipal & Industrial Water	1,076,244
Other	3,732
Total	$4,763,806
Nonreimbursable Allocations:	
Flood Control	$ 19,966
Fish and Wildlife	317,857
Recreation	7,944
Road Relocation Costs	40,436
Cultural Resources Activities	35,110
Safety of Dams	11,428
Total	$ 432,741
Other:	
Navajo Indian Irrigation Project[1]	$ 526,650
Total Cost Allocated	$5,723,197
Section 8 Costs:	
Fish and Wildlife	$ 176,802
Recreation	168,029
Total Costs Not Allocated	$ 344,831
Total	$6,068,028

[1] Repayment of construction costs is subject to the act of July 1, 1932 (47 Stat. 564).

Bountiful apple harvest

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Estimated Project Costs

Project	Costs through September 30, 1984				Estimated Balance to Complete	Total Estimated Cost
	Project Costs	Interest During Construction	Section 8			
			Fish & Wildlife	Recreation		
Storage Project:						
Wayne N. Aspinall Unit, Colorado	$ 141,157,396	$ 13,835,038	$ 3,241,631	$20,983,815	$ 3,911,487	$ 183,129,367
Flaming Gorge Unit, Utah	68,969,606	3,486,614	10,777,934	4,557,361	5,513,802	93,307,317
Glen Canyon Unit, Arizona	310,225,07[illegible]	22,369,904	497,932	9,466,844	542,923	334,102,673
Navajo Unit, New Mexico	40,155,134	318,150	665,200	3,939,418	8,837,233	53,915,135
Transmission Division	246,628,274	17,575,786			93,904,323	358,108,383
Subtotal Storage Project	$ 798,135,480	$ 57,587,492	$15,182,697	$38,947,438	$ 112,709,768	$1,022,562,875
Participating Projects:						
State of Colorado						
Bostwick Park	9,121,592			1,156,190	238,264	10,516,046
Dallas Creek	80,289,969	7,815,933	1,763,645	9,793,734	42,842,719	142,506,000
Dolores	186,097,820	2,701,187	6,320,683	3,343,765	206,659,545	405,123,000
Florida	11,326,194			103,032		11,429,226
Fruitland Mesa	3,313,598				160,950,402	164,264,000
Paonia	8,173,927		10,000	94,707		8,278,634
San Miguel	3,805,648				125,948,352	129,754,000
Silt	7,450,244			60,027		7,510,271
Smith Fork	4,585,408			104,207		4,689,615
West Divide	2,919,677				276,112,323	279,032,000
States of Colorado — New Mexico						
Animas-LaPlata	5,081,820				600,396,180	605,478,000
San Juan-Chama	75,008,875	4,389,961	1,573,934	900,577	36,705,165	118,578,512
States of Colorado — Wyoming						
Savery-Pot Hook	2,429,756				140,948,244	143,378,000
State of New Mexico						
Hammond	7,459,488		5,800			7,465,288
Navajo Indian Irrigation	232,128,033				294,521,967	526,650,000
State of Utah						
Central Utah Project						
Bonneville Unit	470,524,735	38,671,291	7,469,473	25,090,979	1,452,213,522	1,993,970,000
Jensen Unit	55,832,838	6,455,772	50,537	1,940,084	18,104,769	82,384,000
Uintah Unit	6,780,341				162,672,659	169,453,000
Upalco Unit	8,011,481	89,220			93,247,299	101,348,000
Vernal Unit	10,414,723	43,615	16,198	110,495		10,585,031
Emery County	15,276,901	143,425	1,027,878	74,933	1,467,189	17,990,326
State of Wyoming						
LaBarge	222,108				5,180,892	5,403,000
Lyman	32,746,014	120,992	925,373	1,286,632	1,605,583	36,684,594
Seedskadee	24,252,664	1,492,954	5,910,737	636,989	17,657,259	49,950,603
Subtotal Participating Projects	$1,263,253,854	$ 61,924,350	$25,074,258	$44,696,351	$3,637,472,333	$5,032,421,146
Other Facilities						
Hotchkiss Nat'l. Fish Hatchery, Colorado			1,754,895		6,164,355	7,919,250
Jones Hole Nat'l. Fish Hatchery, Utah			4,916,601		208,149	5,124,750
Subtotal Other Facilities			$6,671,496		$6,372,504	$13,044,000
Grand Total	$2,061,389,334	$119,511,842	$46,928,451	$83,643,789	$3,756,554,605	$6,068,028,021

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Estimated Project Costs By Purpose

September 30, 1984 (Thousands of Dollars)

	Estimated Total Project Costs	Irrigation	Power	Municipal and Industrial Water	Flood Control	Fish and Wildlife	Recreation	Highway Improvements	Cultural Resources	Safety of Dams	Other (b)
Storage Project:											
Wayne N. Aspinall Unit, Colorado	$ 183,129	$ 3,074	$ 150,474		$ 1,798	$ 5,597	$ 22,002	$ 184			
Flaming Gorge Unit, Utah	93,307	17,714	46,668			24,143	4,557				$ 225
Glen Canyon Unit, Arizona	334,103	66,221	243,777	$ 3,095		8,927	9,367				2,616
Navajo Unit, New Mexico	53,915	29,998		4,397	2,209	12,089	5,178				44
Transmission Division	358,108		357,393								715
Subtotal Storage Project	$1,022,562	$ 117,007	$ 798,312	$ 7,492	$ 4,007	$ 50,756	$ 41,204	$ 184			$3,600
Participating Projects:											
State of Colorado											
Bostwick Park	10,516	6,673				915	2,928				
Dallas Creek	142,506	27,595	13,116	69,045	2,953	4,818	22,245	1,990	744		
Dolores	405,123	278,287	21,479	13,899	2,482	52,517	18,685	1,999	15,775		
Florida	11,429	9,720			120	1,486	103				
Fruitland Mesa	164,264	146,944				11,126	6,194				
Paonia	8,279	7,626			174	285	95				99
San Miguel	129,754	94,809		32,996		1,421	528				
Silt	7,510	6,735				565	60	150			
Smith Fork	4,690	4,300				286	104				
West Divide	279,032	198,420		74,023		5,934	655				
States of Colorado — New Mexico											
Animas-LaPlata	605,478	412,005		146,317		19,297	9,313		18,546		
San Juan-Chama	118,579	67,148		41,033		8,151	901	1,346			
States of Colorado — Wyoming											
Savery-Pot Hook	143,378	133,616			1,552	6,383	1,827				
State of New Mexico											
Hammond	7,465	7,259				206					
Navajo Indian Irrigation	526,650	526,650 (a)									
State of Utah											
Central Utah Project											
Bonneville Unit	1,993,970	860,209	278,598	602,449	5,282	155,811	58,709	32,912			
Jensen Unit	82,384	8,023		56,297	907	3,264	1,966	454	45	11,428	
Uintah Unit	169,453	89,423		4,155	1,968	70,596	3,311				
Upalco Unit	101,348	39,907		14,221	521	42,843	3,093	763			
Vernal Unit	10,585	9,614		613		246	111				1
Emery County	17,990	10,038		2,419		3,525	1,540	437			31
State of Wyoming											
LaBarge	5,402	5,403									
Lyman	36,685	26,301		1,239		7,858	1,287				
Seedskadee	49,951	1,638	3,625	10,046		33,326	1,114	201			1
Subtotal Participating Projects	$5,032,422	$2,978,343	$ 316,818	$1,068,752	$15,959	$430,859	$134,769	$40,252	$35,110	$11,428	$ 132
Other Facilities											
Hotchkiss Nat'l. Fish Hatchery, Colorado	7,919					7,919					
Jones Hole Nat'l. Fish Hatchery, Utah	5,125					5,125					
Subtotal Other Facilities	$ 13,044					$ 13,044					
Grand Total	$6,068,028	$3,095,350	$1,115,130	$1,076,244	$19,966	$494,659	$175,973	$40,436	$35,110	$11,428	$3,732

(a) Financed with Bureau of Indian Affairs appropriations
(b) Project costs financed by contributions

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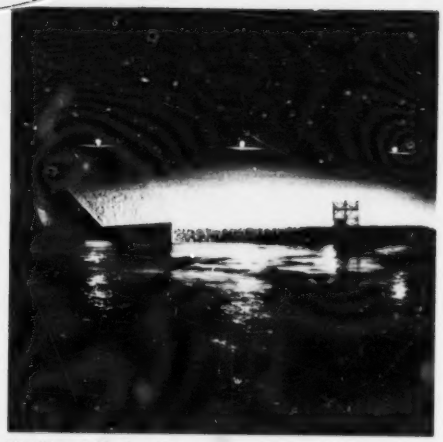
Estimated Repayment of Federal Investment



Nighttime at McPhee Dam

Rafters take advantage of spring runoff

Former Utah Governor Scott Matheson (right) is presented a fishing pole at Strawberry Bay dedication

Reimbursable Investment	September 30, 1984	(In Thousands)
Colorado River Storage Project and Participating Projects		$4,763,806
Eden Project (Irrigation portion to be paid from CRSP Revenues)		13,169
Salinity Control Projects (Portion to be paid from CRSP Revenues)		16,646
Total reimbursable from CRSP Revenue		$4,793,621

Allocation and Repayment	Estimated Repayment	Tentative Allocation
Irrigation		$2,598,516
Water User Organizations	$114,252	
Power and M&I Water Revenue — Storage Units	116,596	
Apportioned Revenues — Participating Project Costs	2,343,380	
Miscellaneous Revenues and Contributed Funds	5,470	
Unpaid Balance[1]	18,818	
Power		1,115,130
Power Revenues	1,075,288	
Miscellaneous Revenues and Contributed Funds	39,842	
Municipal and Industrial Water		1,076,244
M&I Water Revenues	1,034,087	
Miscellaneous Revenues and Contributed Funds	42,157	
Other		3,731
Miscellaneous Revenues and Contributed Funds	3,731	
Total	$4,793,621	$4,793,621

[1]Represents deferred payments on Indian lands of the Animas-LaPlata, Dolores, Florida, and Central Utah Project

Navajo dancer performs at Anasazi heritage center dedication

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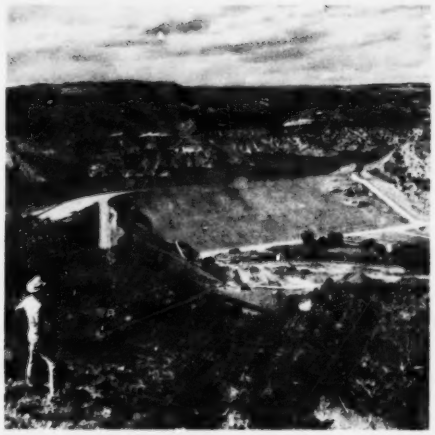
Progress of Repayment

Bifurcation structure on abandoned Mosida Canal



Red Fleet Dam and Reservoir

Combining wheat on Elberta Project Farm in Utah

Fishermen enjoy a day on the mountain lake

	Inservice Investment	Revenues Applied to Payout of Investment	Unpaid Balance	Interest Payments
Power				
Storage project and power portion of participating projects	$ 619,344,094	$285,563,572	$333,780,522	$217,820,179
M&I Water				
Storage project	$ 7,459,644	$ 7,459,644	—	$ 978,588
Participating projects	62,764,783	5,866,324	$ 59,162,287[1]	8,002,522
Subtotal M&I Water	$ 70,224,427	$ 13,325,968	$ 59,162,287	$ 8,981,110
Irrigation				
Storage project	$ 111,776,889	—	$111,776,889	—
Participating projects and Eden	201,964,740	$ 3,732,578	198,232,162	—
Subtotal Irrigation	$ 313,741,629	$ 3,732,578	$310,009,051	—
Total	$1,003,310,150	$302,622,118	$702,951,860	$226,801,289

[1]Increased by $2,263,828 capitalized interest 1969-1977 — Seedskadee Project

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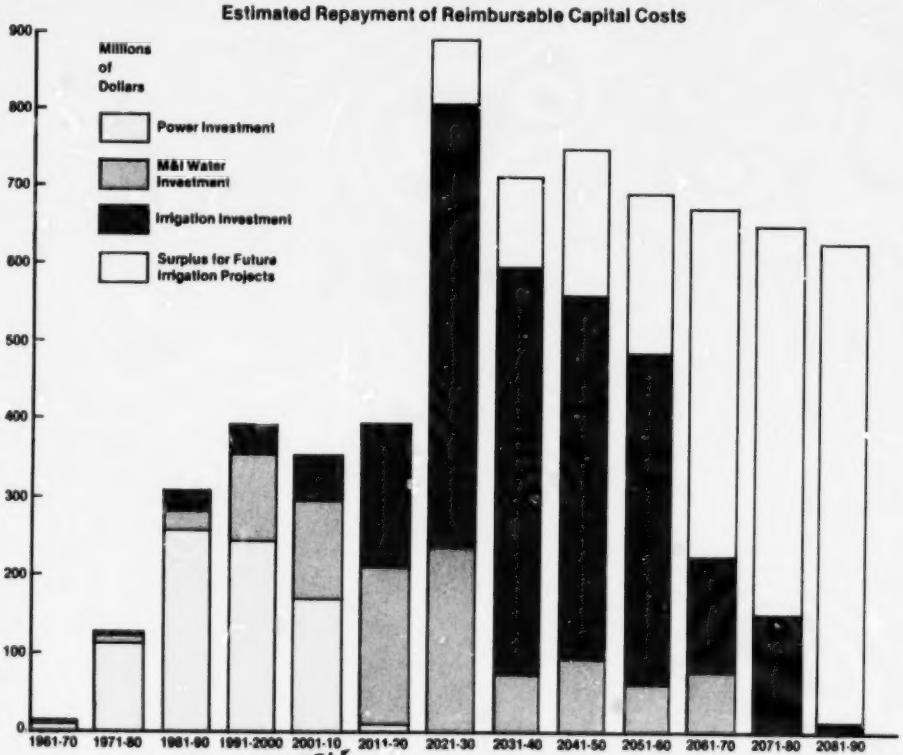
Rate of Repayment

Countryside around the western slope of Colorado

Transmission lines not far from Page, Arizona

Old ranger station down Lone Dome Road, McPhee Dam



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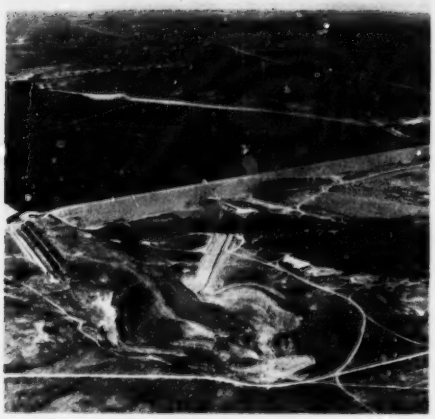
During Fiscal Year 1984, more than $64 million was applied toward repayment of the Federal investment in the Colorado River Storage Project and Participating Projects. Total repayment received through Fiscal Year 1984 amounts to nearly $259 million, which is about 23 percent of the $1.16 billion plant-in-service and more than 4 percent of the $4.4 billion projected total reimbursable Federal investment in the authorized storage units and participating projects. In addition to the amount applied to repayment of the reimbursable investment, the project earned revenues sufficient to pay all operating costs, replacement costs, and current reimbursable interest costs. Operating costs of participating projects which have been turned over to the water conservancy districts for operation were paid by the respective conservancy districts. More than 26 percent of the projected Federal investment was in service as of the end of the Fiscal Year.

Power sales produced nearly 97 percent of the net revenues during Fiscal Year 1984. All of these power revenues were applied toward the power investment in the storage units. Over one-third or 37 percent of the

Beautiful farmlands of the Uncompahgre Project



Fontenelle Dam and Reservoir

Scenic Provo River

present power investment and nearly 30 percent of the estimated ultimate power investment has now been repaid. The $62 million repaid by power revenues in Fiscal Year 1984 is a great improvement over the situation in Fiscal Years 1982 and 1983.

Fiscal Year 1984 revenues from the sale of municipal and industrial water from Glen Canyon and Navajo Reservoirs have returned $7.46 million toward repayment of the M&I investment in the storage units. This amount paid 100 percent of the investment. Future M&I revenues can now be used to repay the irrigation investment.

Through Fiscal Year 1984, power revenues have paid nearly $241 million, municipal and industrial water revenues have paid more than $13 million, and irrigators have paid almost $4 million. All of this repayment is in addition to operating costs and more than $218 million in reimbursable interest. To date Colorado River Storage Project revenues have amounted to more than $970 million, nearly half of which has been returned to the Federal Treasury as repayment and/or interest on the investment.

Repayment contracts have been executed for 17 of the 24 participating projects, all of which are constructed or under construction. Navajo Indian Irrigation Project is also under construction but a repayment contract is not required for this nonreimbursable Indian project. Of the seven projects on which construction has not yet started, one is nearing contract execution, five are in the advanced planning stage, and one has been postponed indefinitely.

Projections using current estimates of Colorado River Storage Project costs, construction schedules, revenues from power sales, municipal and industrial water sales, payments by irrigators, ad valorem taxes, miscellaneous revenues show that payment of the reimbursable costs of the authorized Colorado River Storage Project and Participating Projects can be accomplished within the repayment periods.

The repayment study used for this report, as prepared by Western Area Power Administration, required some adjustments in plant investment to reconcile and coordinate with the assumptions, costs and expenditures shown in the Fiscal Year 1984 Bureau of Reclamation budget documents and financial records. The Colorado River Storage Project power rate used is $36.24 per kilowatt year and 7.1 mills per kilowatt hour (composite rate is 14.21 mills per kilowatt hour at 58.2 percent load factor).

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		POWER INVESTMENT STORAGE AND PARTICIPATING PROJECTS				M & I WATER INVESTMENTS STORAGE PROJECTS				IRRIGATION INVESTMENT STORAGE PROJECTS				IRRIGATION INVESTMENT PARTICIPATING PROJECTS			
			ELECTRIC PLANT				M & I PLANT				IRRIGATION PLANT				IRRIGATION PLANT		
YEAR OF STUDY 1	FISCAL YEAR 2	POWER REVENUES APPLIED 3	IN SERVICE AT END OF YEAR 4	UNPAID BALANCE 5	ALLOWABLE UNPAID BALANCE 6	M & I REVENUES APPLIED 7	IN SERVICE AT END OF YEAR 8	UNPAID BALANCE 9	ALLOWABLE UNPAID BALANCE 10	POWER AND M & I REVENUES APPLIED 11	IN SERVICE AT END OF YEAR 12	UNPAID BALANCE 13	ALLOWABLE UNPAID BALANCE 14	TOTAL REVENUES APPLIED 15	IN SERVICE AT END OF YEAR 16	UNPAID BALANCE 17	ALLOWABLE UNPAID BALANCE 18
0	1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1982	0	0	0	0	0	0	0	0	0	0	0	0	24	7307	7283	7307
2	1983	0	0	0	0	0	0	0	0	0	30790	30790	30790	0	11080	11056	11080
3	1984	173	59815	59742	59915	0	0	0	0	0	40108	40108	40108	0	15373	15349	15373
4	1985	- 328	348164	348500	348164	0	0	0	0	0	72367	72367	72367	0	19092	19068	19092
5	1986	- 489	348175	348130	348175	0	11867	11867	11867	0	98573	98573	98573	0	27411	27387	27411
6	1987	- 1243	358848	358844	358848	- 736	11819	12557	11819	0	99805	99805	99805	31	37817	37782	37817
7	1988	834	402241	402658	402241	781	13087	13094	13087	0	103814	103814	103814	51	44834	44528	44834
8	1989	2338	410794	411928	410794	5	13600	13952	13600	0	104894	104894	104894	50	45080	44934	45086
9	1990	5867	411937	407108	411937	16	15510	15446	15510	0	104764	104764	104764	61	49360	49143	49360
10	1991	9462	481517	448224	481517	9	100	27	100	0	104239	104239	104239	121	60395	60057	60395
11	1992	10837	464416	440185	464416	336	3148	2739	3148	0	101227	101227	101227	185	81010	80487	81010
12	1993	13236	485479	458008	485479	290	4048	3349	4048	0	100470	100470	100470	234	104575	103819	104575
13	1994	9824	487384	426701	487384	291	4897	3907	4897	0	99836	99836	99836	245	118138	117136	118138
14	1995	17394	485410	408736	485410	484	5859	4375	5859	0	98116	98116	98116	267	127313	126044	127313
15	1996	23548	484814	377660	484814	569	7065	5022	7065	0	98951	98951	98951	221	122153	120963	122152
16	1997	0	478228	391004	478228	653	7295	4599	7295	0	98822	98822	98822	244	124881	123627	124881
17	1998	8107	538740	446499	538740	839	7615	4919	7615	0	98853	98853	98853	193	133179	131252	133179
18	1999	- 2841	504118	462328	504118	733	6998	2430	6998	0	99544	99544	99544	332	125384	123205	125384
19	1980	34104	550548	425664	550548	714	6998	1716	6998	0	99504	99504	99504	287	124932	122486	124932
20	1981	0	535016	410132	535016	646	6998	1070	6998	0	99592	99592	99592	269	136476	133785	136476
21	1982	5578	541158	411188	541158	750	6998	326	6998	0	100225	100225	100225	267	137960	134682	137960
22	1983	46775	548107	388080	548107	830	7460	252	7460	0	100653	100653	100653	300	139847	136549	139844
23	1984	62501	545484	404416	545484	252	7460	0	7460	550	111776	111226	111776	453	207266	202535	207303
SUBTOTAL		241048	545484			7460	7460			550	111776			3731	207266		
24	1985	30105	708799	447616	708799	0	7460	0	7460	11626	116598	104430	116598	347	290706	286626	290706
25	1986	17580	745585	466862	745585	0	7460	0	7460	1080	116598	103332	116598	429	290706	286199	290706
26	1987	25891	763243	468649	763243	0	7460	0	7460	2680	116598	101252	116598	436	373047	368105	373047
27	1988	30125	765032	430013	765032	0	7460	0	7460	2680	116598	99172	116598	522	417826	412384	417826
28	1989	32666	765032	397857	765032	0	7460	0	7460	2685	116598	97087	116598	522	466883	460877	466883
29	1990	27544	788671	384152	788671	0	7460	0	7460	2686	116598	95002	116598	523	457834	451125	457834
30	1991	31356	788671	362798	788671	0	7460	0	7460	2682	116598	92735	116598	525	567488	560455	567488
31	1992	33584	788671	329242	788671	0	7460	0	7460	2682	116598	89636	116598	526	567488	559027	567488
32	1993	30786	788671	298456	788671	0	7460	0	7460	2773	116598	86865	116598	702	929978	921714	929978
33	1994	33632	788671	262424	788671	0	7460	0	7460	2979	116598	83686	116598	732	1019164	1010168	1019164
34	1995	23932	806571	238792	806571	0	7460	0	7460	2979	116598	80707	116598	750	1052792	1043946	1052792
35	1996	14415	806571	243377	806571	0	7460	0	7460	2979	116598	77728	116598	799	1101674	1091129	1101674
36	1997	20823	806571	221554	806571	0	7460	0	7460	2675	116598	75053	116598	798	1101674	1090331	1101674
37	1998	21675	806571	199579	806571	0	7460	0	7460	3049	116598	73004	116598	813	1101674	1089518	1101674
38	1999	20436	806571	179143	806571	0	7460	0	7460	3057	116598	69947	116598	906	1101674	1088612	1101674
39	2000	17471	806571	161672	806571	0	7460	0	7460	3057	116598	65890	116598	982	1101674	1087620	1101674
40	2001	21828	806571	139844	806571	0	7460	0	7460	3057	116598	62833	116598	1221	1101674	1086399	1101674
41	2002	22958	806571	116886	806571	0	7460	0	7460	3057	116598	59776	116598	1249	1101674	1085150	1101674
42	2003	20580	806571	96306	806571	0	7460	0	7460	3057	116598	56719	116598	1256	1101674	1083894	1101674
43	2004	19152	806571	77154	806571	0	7460	0	7460	3067	116598	53652	116598	1308	1101674	1082586	1101674
44	2005	7130	806571	70024	806571	0	7460	0	7460	3067	116598	50585	116598	1309	1101674	1081277	1101674
45	2006	7564	806571	62470	806571	0	7460	0	7460	333	116598	50252	116598	1310	1101674	1079967	1101674
46	2007	19682	806571	42808	806571	0	7460	0	7460	333	116598	49919	116598	1313	1101674	1078654	1101674
47	2008	19940	806571	23888	806571	0	7460	0	7460	333	116598	49586	116598	1330	1101674	1077324	1101674
48	2009	16252	806571	7636	806571	0	7460	0	7460	333	116598	49253	116598	1332	1101674	1075992	1101674
49	2010	4521	806571	3098	806571	0	7460	0	7460	333	116598	48920	116598	1333	1101674	1074659	1101674
50	2011	3098	806571	0	806571	0	7460	0	7460	7415	116598	41505	116598	1334	1101674	1073325	1101674
51	2012	0	806571	0	806571	0	7460	0	7460	20943	116598	20562	116598	1337	1101674	1071988	1101674
52	2013	0	806571	0	806571	0	7460	0	7460	16534	116598	4028	85806	1339	1101674	1070649	1101674
53	2014	0	806571	0	749656	0	7460	0	7460	4028	116598	0	76488	9033	1101674	1061618	1101674
54	2015	0	806571	0	540407	0	7460	0	7460	0	116598	0	44209	17143	1101674	1044473	1101674
55	2016	0	806571	0	447925	0	7460	0	7460	0	116598	0	18071	17147	1101674	1027326	1092141
56	2017	0	806571	0	404330	0	7460	0	7460	0	116598	0	16791	17118	1101674	1010208	1088885
57	2018	0	806571	0	395277	0	7460	0	7460	0	116598	0	13782	17121	1101674	993087	1086685
58	2019	0	806571	0	394634	0	7460	0	7460	0	116598	0	0	17123	1101674	1075964	1076867
59	2020	0	806571	0	340954	0	7460	0	7460	0	116598	0	0	37468	1101674	1038496	1076867
60	2021	0	806571	0	342155	0	7460	0	7460	0	116598	0	0	54211	1101674	984285	1060392
61	2022	0	806571	0	341093	0	7460	0	0	0	116598	0	0	69525	1101674	918760	1060392
62	2023	0	806571	0	339177	0	7460	0	0	0	116598	0	0	58344	1101674	860416	1041100
63	2024	0	806571	0	339177	0	7460	0	0	0	116598	0	0	51712	1101674	808704	1041100
64	2025	0	806571	0	328343	0	7460	0	0	0	116598	0	0	56558	1101674	752146	1041100
65	2026	0	806571	0	286831	0	7460	0	0	0	116598	0	0	54184	1101674	697962	1041100
66	2027	0	806571	0	252453	0	7460	0	0	0	116598	0	0	55812	1101674	642150	1027831
67	2028	0	806571	0	252453	0	7460	0	0	0	116598	0	0	49170	1082418	1273724	1276672
68	2029	0	806571	0	252453	0	7460	0	0	0	116598	0	0	52552	1082418	1221172	1723391
69	2030	0	806571	0	254023	0	7460	0	0	0	116598	0	0	51187	1082418	1169385	1723391
70	2031	0	806571	0	271555	0	7460	0	0	0	116598	0	0	47680	2480134	1699421	2301107
71	2032	0	806571	0	269413	0	7460	0	0	0	116598	0	0	59108	2480134	1640313	2280052
72	2033	0	806571	0	258464	0	7460	0	0	0	116598	0	0	58987	2480134	1581331	2272039
73	2034	0	806571	0	181107	0	7460	0	0	0	116598	0	0	54101	2480134	1527245	2241798
74	2035	0	806571	0	97802	0	7460	0	0	0	116598	0	0	40314	2480134	1486931	2203934
75	2036	0	806571	0	61008	0	7460	0	0	0	116598	0	0	45932	2480134	1440999	2203934
76	2037	0	806571	0	41539	0	7460	0	0	0	116598	0	0	56868	2480134	1384031	2176437
77	2038	0	806571	0	41539	0	7460	0	0	0	116598	0	0	57712	2480134	1326319	2176437
78	2039	0	806571	0	41539	0	7460	0	0	0	116598	0	0	53899	2480134	1272420	2176437
79	2040	0	806571	0	18000	0	7460	0	0	0	116598	0	0	45531	2480134	1227889	2158871
80	2041	0	806571	0	18000	0	7460	0	0	0	116598	0	0	43775	2480134	1184114	2084330
81	2042	0	806571	0	18000	0	7460	0	0	0	116598	0	0	48917	2480134	1135197	2002823
82	2043	0	806571	0	18000	0	7460	0	0	0	116598	0	0	48605	2480134	1086592	1930380
83	2044	0	806571	0	18000	0	7460	0	0	0	116598	0	0	45638	2480134	1041029	1865826
84	2045	0	806571	0	0	0	7460	0	0	0	116598	0	0	37235	2480134	1003794	1822130
85	2046	0	806571	0	0	0	7460	0	0	0	116598	0	0	41151	2480134	962643	1821405
86	2047	0	806571	0	0	0	7460	0	0	0	116598	0	0	47196	2480134	915447	1819308
87	2048	0	806571	0	0	0	7460	0	0	0	116598	0	0	44729	2480134	870718	1745209
88	2049	0	806571	0	0	0	7460	0	0	0	116598	0	0	46815	2480134	824203	1809827
89	2050	0	806571	0	0	0	7460	0	0	0	116598	0	0	48861	2480134	775342	1514559
90	2051	0	806571	0	0	0	7460	0	0	0	116598	0	0	43620	2480134	731722	1474345
91	2052	0	806571	0	0	0	7460	0	0	0	116598	0	0	47903	2480134	683819	1485133
92	2053	0	806571	0	0	0	7460	0	0	0	116598	0	0	47077	2480134	636742	1377567
93	2054	0	806571	0	0	0	7460	0	0	0	116598	0	0	44240	2480134	592502	1377567
94	2055	0	806571	0	0	0	7460	0	0	0	116598	0	0	35425	2480134	557077	1377567
95	2056	0	806571	0	0	0	7460	0	0	0	116598	0	0	40944	2480134	516133	1377567
96	2057	0	806571	0	0	0	7460	0	0	0	116598	0	0	44812	2480134	471321	1377567
97	2058	0	806571	0	0	0	7460	0	0	0	116598	0	0	43819	2480134	427702	1377567
98	2059	0	806571	0	0	0	7460	0	0	0	116598	0	0	44071	2480134	383631	1377567
99	2060	0	806571	0	0	0	7460	0	0	0	116598	0	0	47984	2480134	335747	1377567
100	2061	0	806571	0	0	0	7460	0	0	0	116598	0	0	17937	2480134	317810	1377567
101	2062	0	806571	0	0	0	7460	0	0	0	116598	0	0	118574	2480134	199236	1377567
102	2063	0	806571	0	0	0	7460	0	0	0	116598	0	0	18555	2480134	180681	1377567
103	2064	0	806571	0	0	0	7460	0	0	0	116598	0	0	15806	2480134	164776	1377567
104	2065	0	806571	0	0	0	7460	0	0	0	116598	0	0	9639	2480134	155137	1377567
105	2066	0	806571	0	0	0	7460	0	0	0	116598	0	0	12229	2480134	142908	1377567
106	2067	0	806571	0	0	0	7460	0	0	0	116598	0	0	16981	2480134	125927	1375767
107	2068	0	806571	0	0	0	7460	0	0	0	116598	0	0	16767	2480134	109140	1377567
108	2069	0	806571	0	0	0	7460	0	0	0	116598	0	0	16885	2480134	92255	1377567
109	2070	0	806571	0	0	0	7460	0	0	0	116598	0	0	17272	2480134	74983	1377567
110	2071	0	806571	0	0	0	7460	0	0	0	116598	0	0	14019	2480134	60964	1377567
111	2072	0	806571	0	0	0	7460	0	0	0	116598	0	0	18362	2480134	42602	1377567
112	2073	0	806571	0	0	0	7460	0	0	0	116598	0	0	18260	2480134	124342	1377567
113	2074	0	806571	0	0	0	7460	0	0	0	116598	0	0	16666	2480134	107676	1377567
114	2075	0	806571	0	0	0	7460	0	0	0	116598	0	0	17938	2480134	89738	1377567
115	2076	0	806571	0	0	0	7460	0	0	0	116598	0	0	15578	2480134	74160	1377567
116	2077	0	806571	0	0	0	7460	0	0	0	116598	0	0	17865	2480134	56295	1377567
117	2078	0	806571	0	0	0	7460	0	0	0	116598	0	0	15686	2480134	40609	1377567
118	2079	0	806571	0	0	0	7460	0	0	0	116598	0	0	17286	2480134	23613	586823
119	2080	0	806571	0	0	0	7460	0	0	0	116598	0	0	938	2480134	21982	591508
120	2081	0	806571	0	0	0	7460	0	0	0	116598	0	0	630	2480134	21352	494039
121	2082	0	806571	0	0	0	7460	0	0	0	116598	0	0	486	2480134	20866	494039
122	2083	0	806571	0	0	0	7460	0	0	0	116598	0	0	486	2480134	20380	494039
123	2084	0	806571	0	0	0	7460	0	0	0	116598	0	0	486	2480134	19894	475246
124	2085	0	806571	0	0	0	7460	0	0	0	116598	0	0	478	2480134	19416	208453
125	2086	0	806571	0	0	0	7460	0	0	0	116598	0	0	136	2480134	19280	208453
126	2087	0	806571	0	0	0	7460	0	0	0	116598	0	0	130	2480134	19150	208453
127	2088	0	806571	0	0	0	7460	0	0	0	116598	0	0	131	2480134	19019	177121
128	2089	0	806571	0	0	0	7460	0	0	0	116598	0	0	100	2480134	18919	177121
129	2090	0	806571	0	0	0	7460	0	0	0	116598	0	0	101	2480134	18818	18818
TOTAL		806571	806571			7460	7460			116598	116598			2491316	2480134		

*FIRST FISCAL YEAR ESTABLISHED BY FIRST DEVELOPMENT PERIOD NOTICE ISSUED ON PAONIA PROJECT EFFECTIVE IN 1962 LAST FISCAL YEAR ESTABLISHED BY ESTIMATED END OF REPAYMENT PERIOD OF LAST IRRIGATION BLOCK OF FRUITLAND MESA PROJECT IN 2030

*POWER INVESTMENT (COL. 4) IS BASED ON FY 1983 COSTS OF $1,561,121,000. THIS AMOUNT ADJUSTED BY WAPA TO $805,571,000. ADJUSTMENTS EXCLUDES $714,719,000, THE FY PLANT-IN-SERVICE FOR BONNEVILLE UNIT, AND INCLUDES $18,000,000 FOR THE SAME UNIT AS A RESULT OF 1984 POWER REALLOCATION. OTHER ADJUSTMENTS INCLUDE $57,631,000 WHICH ACCOUNTS FOR REPLACEMENTS, MOVABLE PROPERTY, AND TRANSMISSION CONSTRUCTION NOT COMPLETED FIVE YEARS PRIOR TO 1983

*REPAYMENT OF INDIAN OBLIGATIONS DEFERRED BY LEAVITT ACT

*THE $11,838,000 (COL. 11 FY 1982) REFLECTS AN ADJUSTMENT IN PLANT-IN-SERVICE AND DOES NOT REPRESENT REVENUES APPLIED IN THIS YEAR. WAPA'S RATE AND REPAYMENT STUDY REFLECTS $105,327,000 RATHER THAN $119,586,000 FOUND IN USBR FINANCIAL RECORDS FOR FY 1984

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M & I INVESTMENT PARTICIPATING PROJECTS						REPAYMENT SUMMARY				CUMULATIVE APPORTIONED REVENUES AVAILABLE FOR FUTURE PARTICIPATING PROJECTS				
			M & I PLANT				TOTAL PLANT							
YEAR OF STUDY 1	FISCAL YEAR 2	M & I REVENUES APPLIED 19	IN SERVICE AT END OF YEAR 20	UNPAID BALANCE 21	ALLOWABLE UNPAID BALANCE 22	TOTAL REVENUES APPLIED 23	IN SERVICE AT END OF YEAR 24	UNPAID BALANCE 25	ALLOWABLE UNPAID BALANCE 26	TOTAL 27	COLORADO 28	NEW MEXICO 29	UTAH 30	WYOMING 31
0	1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1982	0	0	0	0	24	7307	7283	7307	0	0	0	0	0
2	1983	24	547	523	547	24	42427	42379	42427	0	0	0	0	0
3	1984	-4	556	536	556	189	112952	112735	112952	0	0	0	0	0
4	1985	5	577	552	577	-2624	337210	338817	337210	0	0	0	0	0
5	1986	9	583	560	583	-491	484619	485717	484619	0	0	0	0	0
6	1987	-9	669	645	669	-1959	508756	513813	508756	0	0	0	0	0
7	1988	4	669	641	669	1670	584445	587632	584445	0	0	0	0	0
8	1989	-9	1570	1561	1570	2384	579826	576741	579844	0	0	0	0	0
9	1970	9	2884	2856	2884	5943	584255	579115	584255	0	0	0	0	0
10	1971	0	7304	7276	7304	6582	633555	619823	633555	0	0	0	0	0
11	1972	5	10725	10692	10725	11463	680526	636331	680526	0	0	0	0	0
12	1973	9	44889	44827	44889	13771	719439	680473	719439	0	0	0	0	0
13	1974	-18	44831	44808	44831	10342	734988	695488	734988	0	0	0	0	0
14	1975	60	53777	53674	53777	18226	750475	682941	750475	0	0	0	0	0
15	1976	102	53777	53672	53777	23428	746560	655548	926509	0	0	0	0	0
16	1977	656	61147	62886	63747	1563	770153	690238	772753	0	0	0	0	0
17	1978	562	61488	62330	63753	7701	840873	743563	842940	0	0	0	0	0
18	1979	713	61488	61625	63761	-863	847222	750012	849485	0	0	0	0	0
19	1980	726	62632	62040	64902	29801	844314	711400	846084	0	0	0	0	0
20	1981	780	62656	61274	64926	1701	840436	705823	842708	0	0	0	0	0
21	1982	875	62745	60483	65910	6970	848485	709888	850751	0	0	0	0	0
22	1983	572	62788	59826	65925	50477	856833	686780	860189	0	0	0	0	0
23	1984	747	186426	183345	189190	64300	1158882	992522	1161193	0	0	0	0	0
SUBTOTAL		5846	186826			258635	1158882			0	0	0	0	0
24	1985	1824	265376	233331	264998	33802	1383107	1071986	1384527	0	0	0	0	0
25	1986	1800	269676	231531	240998	20867	1429803	1087904	1401323	0	0	0	0	0
26	1987	1910	269676	229621	241001	30316	1529822	1157827	1501347	0	0	0	0	0
27	1988	2002	272197	230840	243822	34729	1579113	1173089	1550538	0	0	0	0	0
28	1989	2097	278237	234184	249662	37360	1623986	1179805	1595413	0	0	0	0	0
29	1990	2271	786127	736803	757562	31923	2156386	1880082	2127813	0	0	0	0	0
30	1991	8791	786127	731621	757562	43344	2268243	1746892	2227888	0	0	0	0	0
31	1992	9006	946382	882178	917807	45952	2426498	1860085	2387923	0	0	0	0	0
32	1993	18853	946382	885635	917807	53814	2788687	2189480	2760412	0	0	0	0	0
33	1994	9783	950528	899988	921953	46526	2862319	2216266	2853744	0	0	0	0	0
34	1995	10189	950528	889799	921953	37560	2833847	2230344	2868372	0	0	0	0	0
35	1996	10689	950528	879110	921953	28882	2862829	2250344	2954254	0	0	0	0	0
36	1997	11069	950528	867041	921953	38385	2862829	2214979	2952254	0	0	0	0	0
37	1998	11468	950528	855573	921953	37305	2862829	2177674	2954254	0	0	0	0	0
38	1999	11876	950528	843715	921953	38275	2862829	2141417	2954254	0	0	0	0	0
39	2000	12302	950528	831449	921953	33622	2862829	2107831	2954254	0	0	0	0	0
40	2001	12738	950528	818746	921953	30844	2862829	2076922	2954254	0	0	0	0	0
41	2002	13191	950528	788691	921347	40455	2862829	2028403	2953648	0	0	0	0	0
42	2003	13656	950528	752985	921347	38589	2862829	1989814	2953648	0	0	0	0	0
43	2004	14153	950528	738732	921347	37690	2862829	1952124	2953648	0	0	0	0	0
44	2005	14645	950528	724087	921347	26141	2862829	1925983	2953648	0	0	0	0	0
45	2006	15148	950528	708939	921347	24255	2862829	1901628	2953648	0	0	0	0	0
46	2007	15671	950528	693268	921347	35979	2862829	1865649	2953648	0	0	0	0	0
47	2008	16210	950528	677058	921347	37813	2862829	1827836	2953648	0	0	0	0	0
48	2009	16769	950528	660289	921347	34688	2862829	1792150	2953648	0	0	0	0	0
49	2010	17354	950528	642935	921347	23541	2862829	1768609	2953648	0	0	0	0	0
50	2011	17956	950528	625327	921347	28680	2862829	1739857	2953648	0	0	0	0	0
51	2012	18580	950528	606967	921347	40480	2862829	1699517	2953648	0	0	0	0	0
52	2013	19140	950528	587457	918839	37013	2862829	1662534	2920439	0	0	0	0	0
53	2014	19784	950528	567673	918828	33245	2862829	1629289	2854208	0	0	0	0	0
54	2015	20482	950528	547191	918550	37825	2862829	1591864	2632300	0	0	0	0	0
55	2016	21192	950528	525999	918550	38339	2862829	1553325	2484099	0	0	0	0	0
56	2017	21933	950528	504066	907140	39051	2862829	1514274	2422406	0	0	0	0	0
57	2018	22232	950528	481834	907140	39363	2862829	1474921	2408044	0	0	0	0	0
58	2019	23039	950528	458795	907140	40162	3062829	1534759	2389801	0	0	0	0	0
59	2020	23880	950528	434915	907140	61348	3062829	1473411	2336321	0	0	0	0	0
60	2021	24746	950528	410169	906582	78867	3062829	1394454	2316589	0	0	0	0	0
61	2022	25639	950528	384531	906582	91163	3062829	1303291	2308647	0	0	0	0	0
62	2023	25176	950528	358355	906582	93520	3062829	1219771	2286639	7856	0	0	0	7856
63	2024	26156	950528	333199	822417	77668	3062829	1141503	2202884	7858	0	0	0	7858
64	2025	23410	950528	309788	822417	78568	3062829	1061935	2191880	9814	0	0	0	9814
65	2026	24327	950528	285462	822417	78511	3062829	983424	2120348	9383	0	0	0	9383
66	2027	25113	950528	260349	822417	80825	3062829	902599	2102801	9881	0	0	0	9881
67	2028	26000	950528	234259	822417	75260	3763573	1507983	2804942	8500	0	0	0	8500
68	2029	27129	950528	207130	822417	79581	3763573	1428302	2708261	9087	0	0	0	9087
69	2030	28176	1057385	265511	421071	79963	3870430	1455198	2400485	15408	0	5475	0	9933
70	2031	9520	1057385	278991	421071	54500	4448146	1978412	2930733	20530	0	10492	0	10038
71	2032	7328	1057385	271663	421071	68406	4448146	1911976	2988536	10722	0	10722	0	0
72	2033	7984	1057385	263799	421071	68831	4448146	1845130	2951574	10893	0	10893	0	0
73	2034	8236	1057385	255584	348525	62336	4448146	1782809	2755430	9784	0	9784	0	0
74	2035	6924	1057385	248640	338141	47238	4448146	1735571	2637877	7224	0	7224	0	0
75	2036	6711	1057385	241929	335832	52843	4448146	1682728	2600772	8215	0	8215	0	0
76	2037	7278	1057385	234651	335832	64246	4448146	1618882	2553808	10267	0	10267	0	0
77	2038	7900	1057385	226751	335832	65612	4448146	1553070	2553808	10432	0	10432	0	0
78	2039	8556	1057385	218195	317591	61455	4448146	1491615	2535567	15200	0	10418	0	4782
79	2040	9365	1057385	208830	316974	53898	4448146	1437719	2503845	19424	0	9822	0	9602
80	2041	9995	1057385	200735	316974	52870	4448146	1384849	2419304	18609	0	9506	0	9103
81	2042	9627	1057385	190808	285704	58844	4448146	1326005	2308527	20862	0	10666	0	10216
82	2043	8193	1057385	182615	283932	54758	4448146	1265357	2222292	20812	0	10630	0	10182
83	2044	8896	1057385	173719	273171	54458	4448146	1214748	2158997	19556	0	9968	0	9588
84	2045	9083	1057385	164656	243284	46298	4448146	1168450	2065414	15873	0	8107	0	7766
85	2046	7779	1057385	156877	217523	48600	4448146	1119520	2058928	17625	0	9001	0	8624
86	2047	8576	1057385	148298	237023	55775	4448146	1063745	2057332	20300	0	10367	0	9933
87	2048	9460	1057385	138838	237023	54186	4448146	1009559	1982272	19205	0	9808	0	9527
88	2049	10427	1057385	128411	237023	58562	4448146	950514	1883850	20535	0	10251	0	9805
89	2050	11498	1057385	116912	237023	60380	4448146	892254	1751582	21106	0	10779	0	10329
90	2051	12671	1057385	104241	236842	58291	4448146	833963	1710187	18860	0	9631	0	9229
91	2052	13686	1057385	90846	106857	61498	4448146	774465	1571990	26767	0	10884	0	10183
92	2053	1402	1057385	89744	106857	48970	4448146	725486	1484424	26403	0	10418	0	9985
93	2054	2100	1057385	87644	106857	46340	4448146	679146	1484424	19185	0	9798	0	9387
94	2055	2318	1057385	84326	106857	37743	4448146	641403	1484424	15268	0	7796	0	7472
95	2056	2559	1057385	81767	106857	43503	4448146	597900	1484424	17705	0	9041	0	8665
96	2057	2826	1057385	78941	106857	47638	4448146	550262	1484424	19418	0	9914	0	9504
97	2058	3120	1057385	75821	106857	46739	4448146	503523	1484424	18889	0	9644	0	9245
98	2059	3445	1057385	72376	106857	47319	4448146	456697	1484424	19038	0	9746	0	9342
99	2060	3803	1057385	68573	106857	51687	4448146	404320	1484424	20776	0	10607	0	10169
100	2061	4198	1057385	64375	106857	22135	4448146	382185	1484424	46559	27081	9956	0	9543
101	2062	4635	1057385	59740	106857	23209	4448146	358975	1484424	49545	28638	10522	0	10087
102	2063	5118	1057385	54622	106857	23773	4448146	335203	1484424	49760	29067	10670	0	10132
103	2064	5650	1057385	48972	106857	21455	4448146	313748	1484424	41787	24364	8871	0	8552
104	2065	6238	1057385	42734	106857	15877	4448146	297871	1484424	24475	14284	5198	0	4983
105	2066	6887	1057385	35847	106857	19116	4448146	278755	1484423	31734	18534	6740	0	6460
106	2067	7603	1057385	28244	106857	24564	4448146	254171	1484424	45073	26304	9573	0	9176
107	2068	8394	1057385	19850	106857	25161	4448146	228990	1484424	44525	26004	9458	0	9085
108	2069	9267	1057385	10583	106857	26152	4448146	202838	1484424	44789	26164	9514	0	9121
109	2070	10583	1057385	0	73827	27855	4448146	174983	1451494	45602	26632	9746	0	9043
110	2071	0	1057385	0	0	14019	4448146	160964	1377567	35786	21473	7808	0	7485
111	2072	0	1057385	0	0	16362	4448146	142602	1377567	48845	29586	10365	0	9894
112	2073	0	1057385	0	0	18260	4448146	124343	1377567	48895	29422	10306	0	9909
113	2074	0	1057385	0	0	16885	4448146	107676	1377567	44187	25808	9384	0	8997
114	2075	0	1057385	0	0	17039	4448146	89739	1377567	47784	27888	10144	0	9724
115	2076	0	1057385	0	0	15978	4448146	74160	1377567	41138	24236	8737	0	8375
116	2077	0	1057385	0	0	17885	4448146	56295	1377567	47388	27774	10109	0	9682
117	2078	0	1057385	0	0	15886	4448146	40509	1377567	41438	24301	8801	0	8436
118	2079	0	1057385	0	0	17689	4448146	22813	1366823	48489	28091	10215	370	9793
119	2080	0	1057385	0	0	938	4448146	21882	1361308	48636	28063	10750	10617	10206
120	2081	0	1057385	0	0	630	4448146	21352	1354039	69995	40576	10756	19024	10310
121	2082	0	1057385	0	0	486	4448146	20866	1346039	67035	38674	10500	17586	10065
122	2083	0	1057385	0	0	486	4448146	20380	1346039	63417	27316	9833	19046	9222
123	2084	0	1057385	0	0	486	4448146	19894	475246	59723	25717	9352	15889	8865
124	2085	0	1057385	0	0	478	4448146	19416	268453	34728	14963	5442	9108	5215
125	2086	0	1057385	0	0	136	4448146	19280	268453	48487	20887	7596	12723	7281
126	2087	0	1057385	0	0	136	4448146	19150	268453	64898	27867	10133	16992	9714
127	2088	0	1057385	0	0	131	4448146	19019	177121	66306	28517	10376	17378	9941
128	2089	0	1057385	0	0	100	4448146	18919	177121	53421	27326	9936	16642	9524
129	2090	0	1057385	0	0	101	4448146	18818	18818	62136	26764	9732	16309	9330
TOTAL		1029133	1057385			4403676	4448146			2061739	771219	580476	175464	534580

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